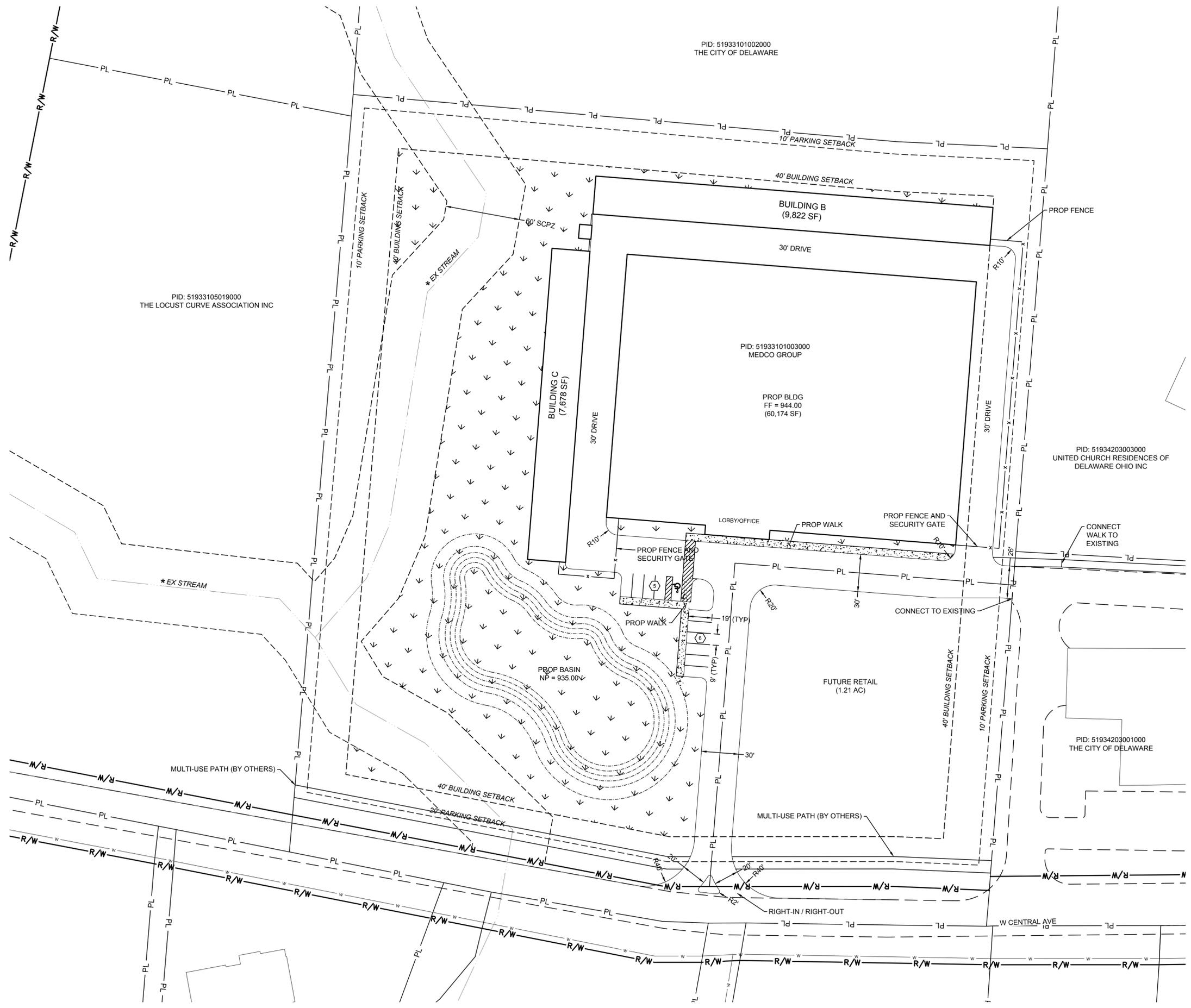




PLAN REVIEW F:  
Merchants Retail

PLOT SCALE: 1"=40' DATE: 12/13/19 - 3:21 PM EDITED BY: MROCHIE DRAWING FILE: 0:2019010191.D DRAWINGS\CIVIL\CONSTRUCTION\DOCUMENTS\CONCEPT PLAN\19.01911\_CP\_SITE\_PLAN.DWG



**SITE DATA**

**ZONING:**

PROPERTY OWNER: MEDCO GROUP  
 PARCEL ID: 51933101003000  
 SITE ACREAGE: 8.276 AC  
 EXISTING ZONING: B-1  
 PROPOSED ZONING: B-3  
 FEMA FLOODPLAIN: ZONE X

**SITE LAYOUT DATA:**

MINIMUM DRIVE AISLE WIDTH: 30'  
 STANDARD PARKING STALL: 9'X19'  
 PARKING SETBACK/BUFFER: 10'  
 BUILDING SETBACK/BUFFER: 40'

**BUILDING DATA:**

TOTAL AREA: 77,674 SF  
 BUILDING HEIGHT: 20'

**PARKING DATA:**

OFFICE SPACES REQUIRED: 5 SPACES (1,300 SF)  
 STORAGE SPACES REQUIRED: 6 SPACES (1,25 UNITS)  
 TOTAL SPACES REQUIRED: 11 SPACES  
 SPACES PROVIDED: 11 SPACES

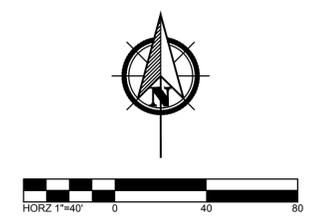
**LANDSCAPE DATA:**

OPEN SPACE REQUIRED: 20%  
 OPEN SPACE PROVIDED: 20%

**\* NOTE**  
 STREAM ON SITE IS ASSUMED TO BE INTERMITTENT AND WILL BE CONFIRMED BY A WATERS AND WETLANDS DETERMINATION

**SITE LEGEND**

- PL — PROPERTY LINE
- R/W — RIGHT-OF-WAY
- (X) PARKING STALL COUNT
- x FENCE
- [Pattern] CONCRETE WALK
- [Pattern] OPEN SPACE



MERCHANT'S RETAIL PARTNERS, LLC

**AMERICAN STRUCTUREPOINT INC.**  
 2550 Corporate Exchange Dr., Ste 300 | Columbus, Ohio 43231  
 TEL: 614.470.1226  
 www.structurepoint.com

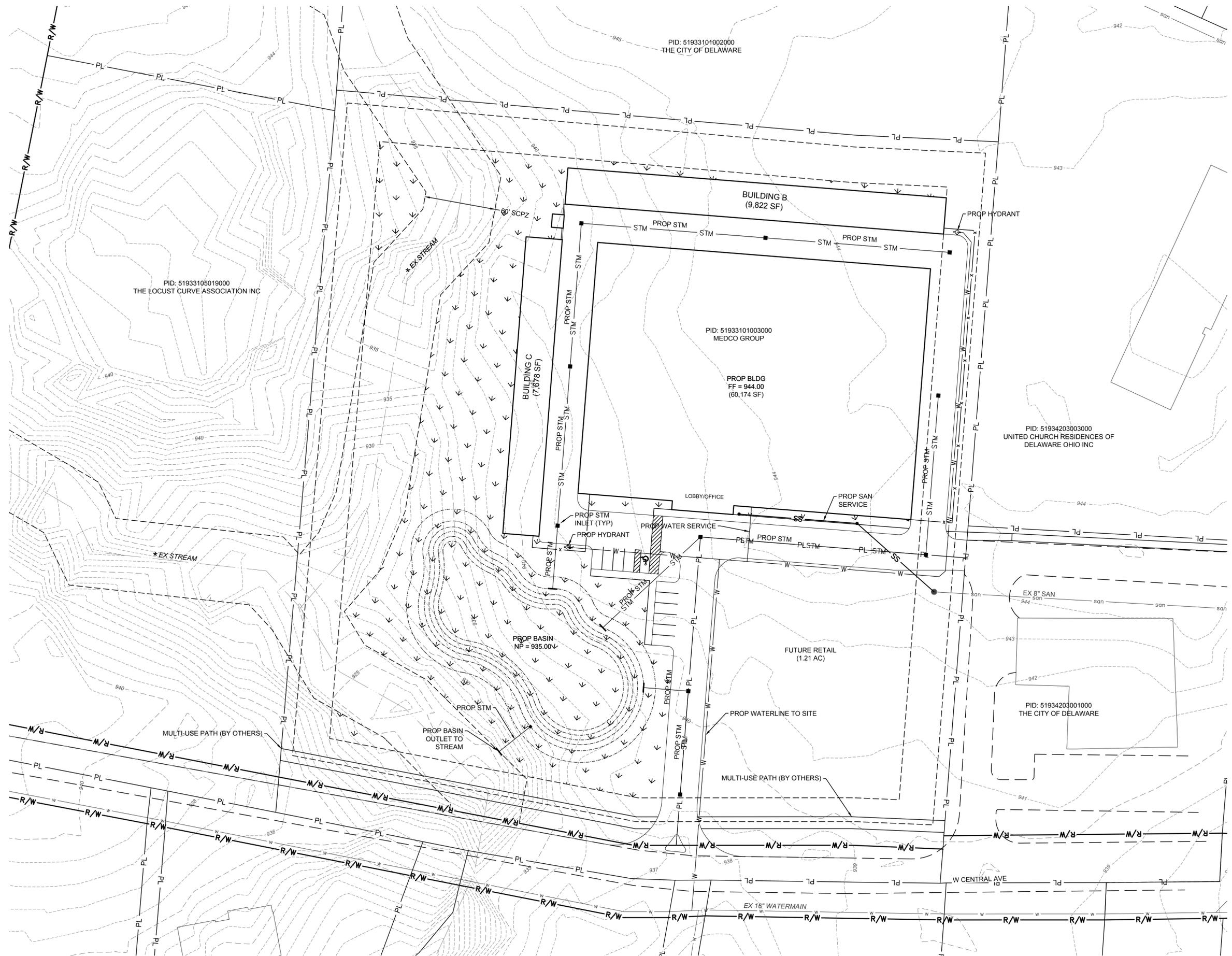
CONCEPT PLAN FOR  
**MERCHANT'S RETAIL**  
 CITY OF DELAWARE, DELAWARE COUNTY, OHIO  
**SITE PLAN**

REVISIONS	DATE	SHEET NO.	DESCRIPTION	APPROVED	DATE

DATE: 12/13/2019  
 DRAWN BY: MHS  
 CHECKED BY: SLG  
 JOB NUMBER: 2019.01911

**C100**

PLOT SCALE: 1:1 EDIT DATE: 12/13/19 - 3:12 PM EDITED BY: MROCHIE DRAWING FILE: C:\2019\0191.D. DRAWINGS\CIVIL\CONSTRUCTION\DOCUMENTS\CONCEPT PLAN\19.01911-CP-UTILITY PLAN.DWG



\* NOTE  
STREAM ON SITE IS ASSUMED TO BE  
INTERMITTENT AND WILL BE CONFIRMED  
BY A WATERS AND WETLANDS  
DETERMINATION

**UTILITY LEGEND**

- SANITARY GRAVITY
- SANITARY SERVICE
- WATER
- STORM SEWER
- CATCH BASIN
- HEADWALL
- FIRE HYDRANT
- OPEN SPACE



MERCHANT'S RETAIL  
PARTNERS, LLC



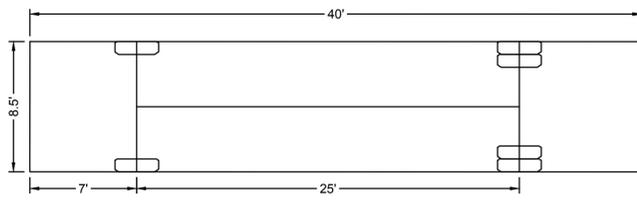
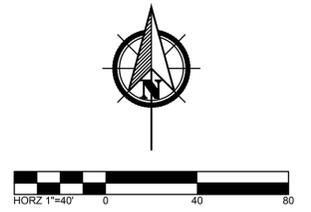
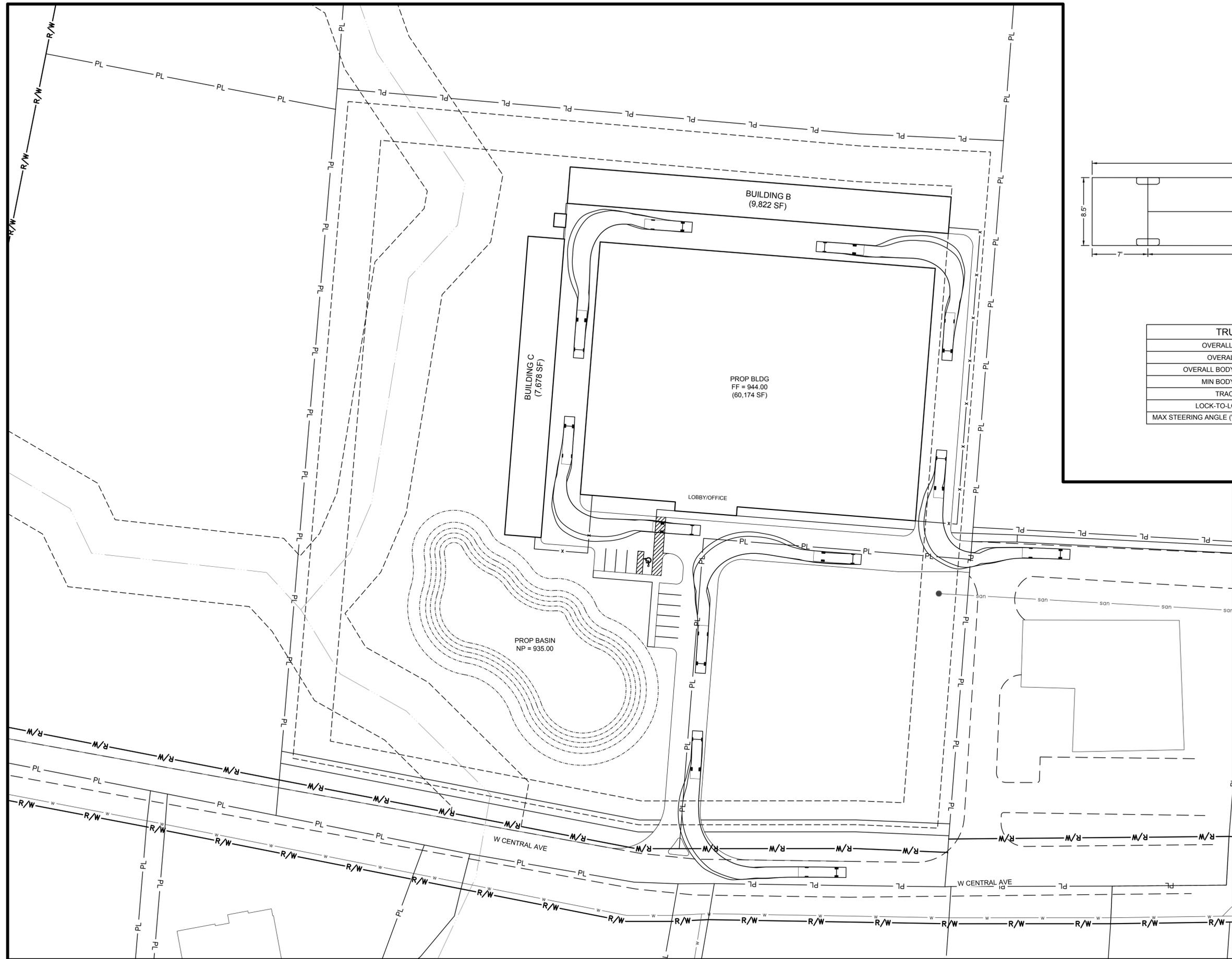
CONCEPT PLAN  
FOR  
**MERCHANT'S RETAIL**  
CITY OF DELAWARE, DELAWARE COUNTY, OHIO  
**UTILITY PLAN**

REVISIONS	DATE	SHEET NO.	DESCRIPTION	APPROVED	DATE

DATE:	12/13/2019
DRAWN BY:	MHS
CHECKED BY:	SLG
JOB NUMBER:	2019.01911

**C200**

PLOT SCALE: 1"=40' DATE: 12/13/19 - 3:19 PM EDITED BY: MROCHIE DRAWING FILE: C:\2019\01911.D DRAWINGS\CIVIL\CONSTRUCTION\DOCUMENTS\CONCEPT PLAN\19\_01911\_CP\_TURNING\_EXHIBIT.DWG



TRUCK INFORMATION	
OVERALL LENGTH:	40'
OVERALL WIDTH:	8.5'
OVERALL BODY HEIGHT:	10.5'
MIN BODY HEIGHT:	1.158'
TRACK WIDTH:	8.5'
LOCK-TO-LOCK TIME:	5.00s
MAX STEERING ANGLE (VIRTUAL):	41.40°

REVISIONS	DATE	SHEET NO.	DESCRIPTION	APPROVED	DATE

DATE: 12/13/2019  
 DRAWN BY: MHS  
 CHECKED BY: SLG  
 JOB NUMBER: 2019.01911

**C300**

CONCEPT PLAN  
 FOR  
**MERCHANT'S RETAIL**  
 CITY OF DELAWARE, DELAWARE COUNTY, OHIO  
**FIRE TRUCK**  
**TURNING EXHIBIT**

**AMERICAN STRUCTUREPOINT INC.**  
 250 Corporate Exchange Dr., Ste 300 | Columbus, Ohio 43221  
 TEL: 614.222.2226  
 www.structurepoint.com

**MERCHANT'S RETAIL PARTNERS, LLC**



PLAN REVIEW G:  
K2 Development























project:

Proposed  
**Commercial Development**

Sunbury Rd. & Mill Run Crossing  
 Delaware, OH



Richard J. Cleve, AIA, NCARB

Consulting Architect:  
**ROGVOY**  
 ARCHITECTS

32500 TELEGRAPH ROAD  
 SUITE 250  
 BINGHAM FARMS, MICHIGAN  
 48025-2404

PH 248.540.7700 FX 248.540.2710  
 ARCHITECTS@ROGVOY.COM



drawing:

**Floor Plan**

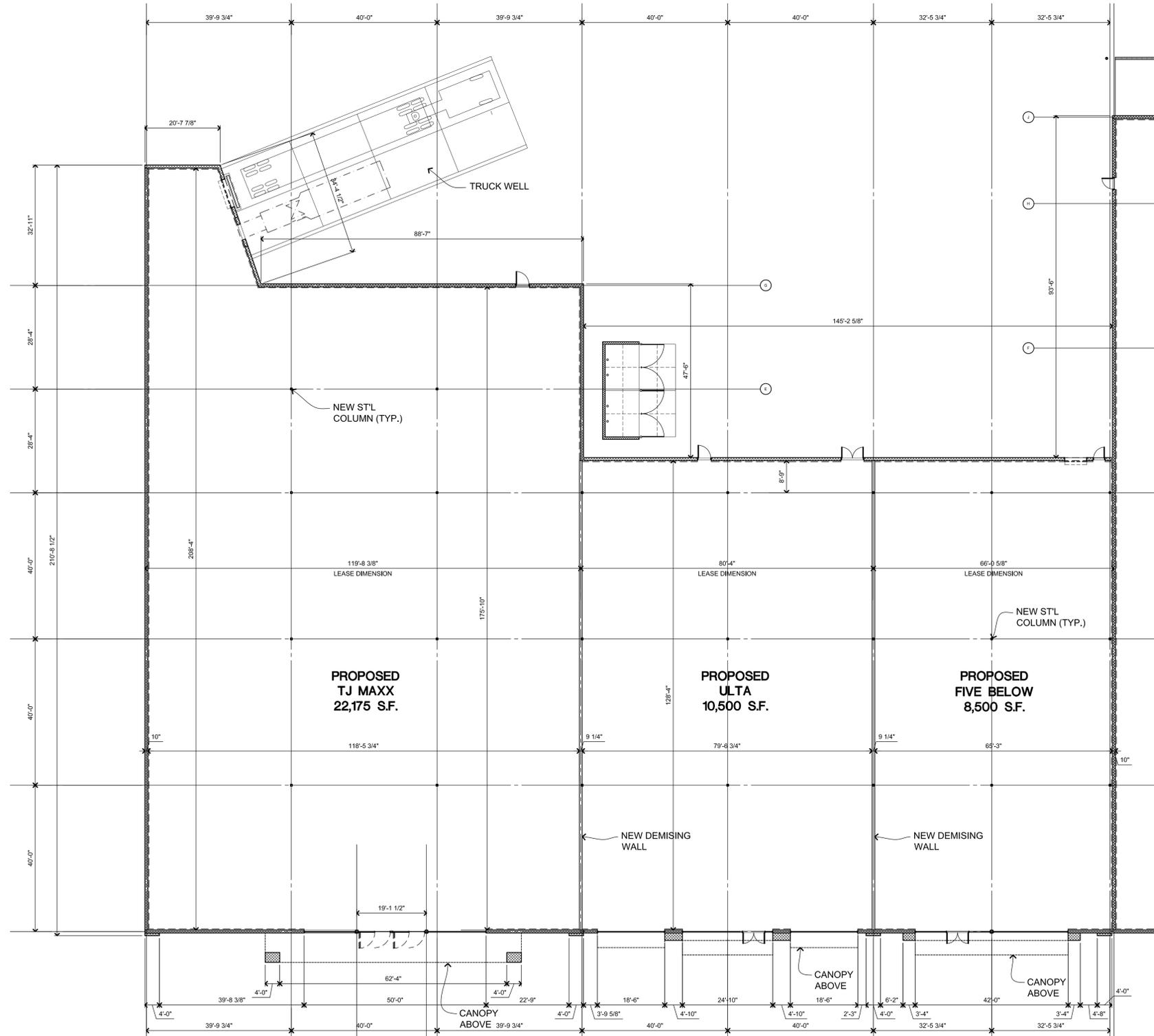
DO NOT SCALE DRAWING

issue date: 19 DEC 2019  
 drawn: BDB  
 checked: MD  
 approved: MD

file number: **19027**

sheet:

**A-1**



**Floor Plan**

SCALE: 1/16" = 1'-0"

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G:\Drawings\2019\19027\02\_Scheme\19027\_FP-1\_19-1213.dwg, 12/27/2019 11:31:06 AM, bryanb

project:

*Commercial Development*

Sunbury Rd. & Mill Run Crossing  
 Delaware, OH



Richard J. Cleve, AIA, NCARB

Consulting Architect:  
**ROGVOY**  
 ARCHITECTS

32500 TELEGRAPH ROAD  
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drawing:

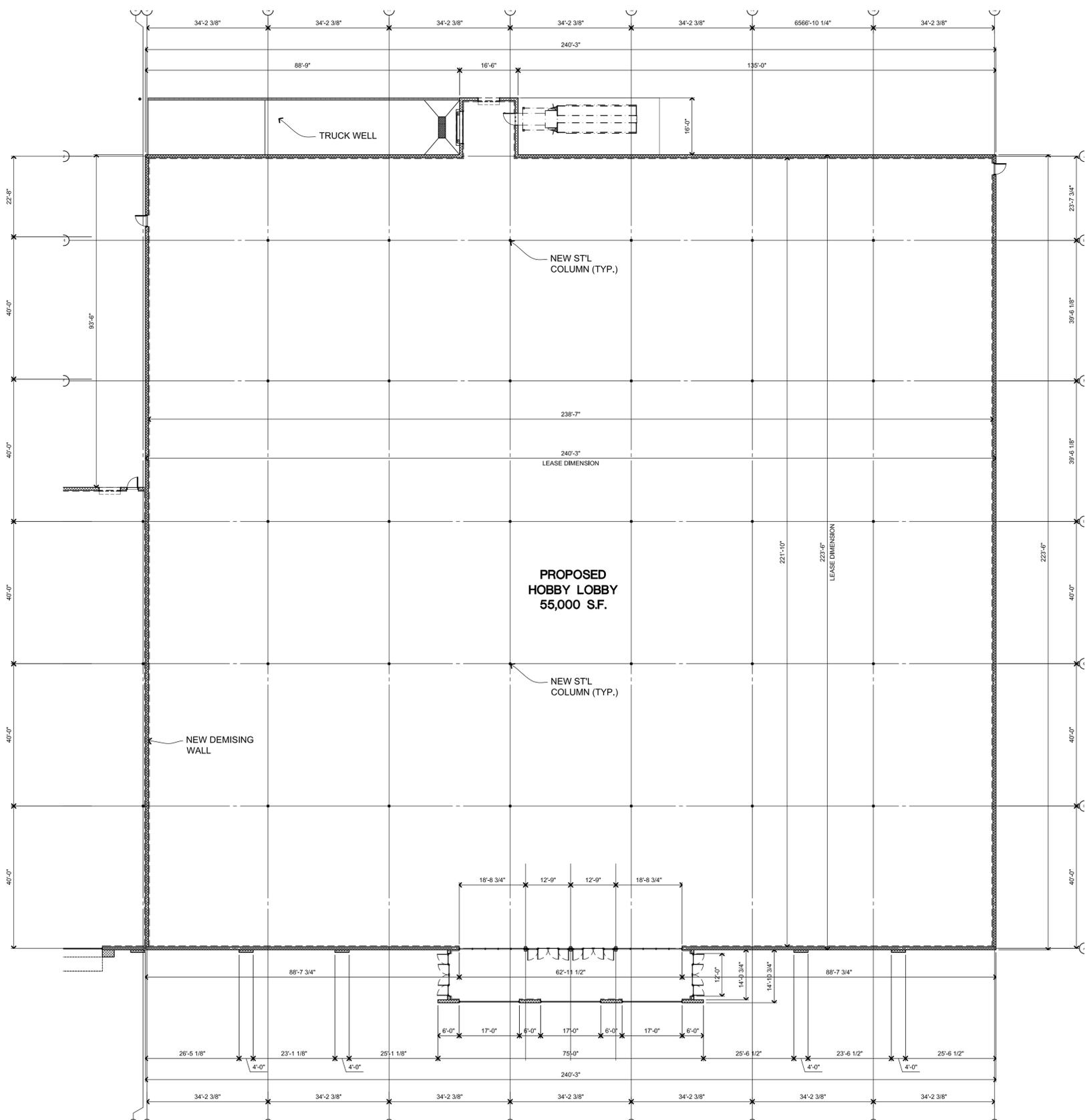
**Floor Plan**

DO NOT SCALE DRAWING

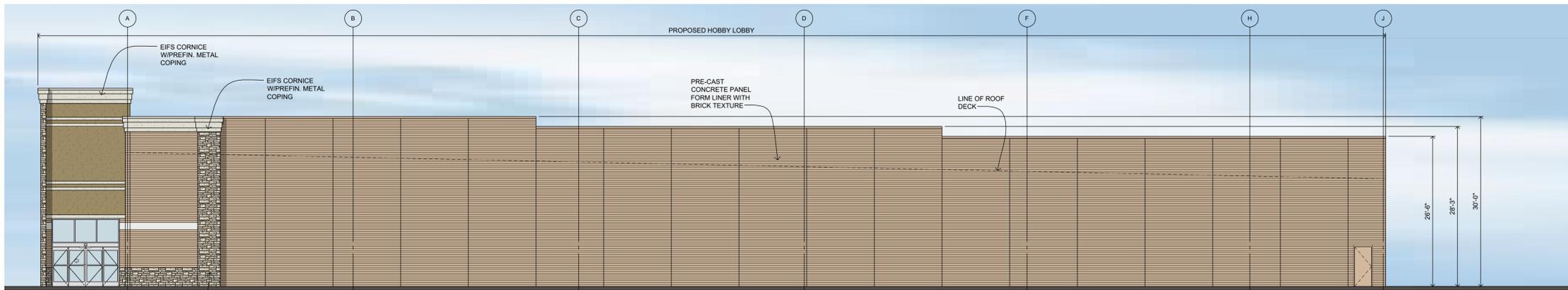
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 drawn: BDB  
 checked: MD  
 approved: MD

file number: 19027

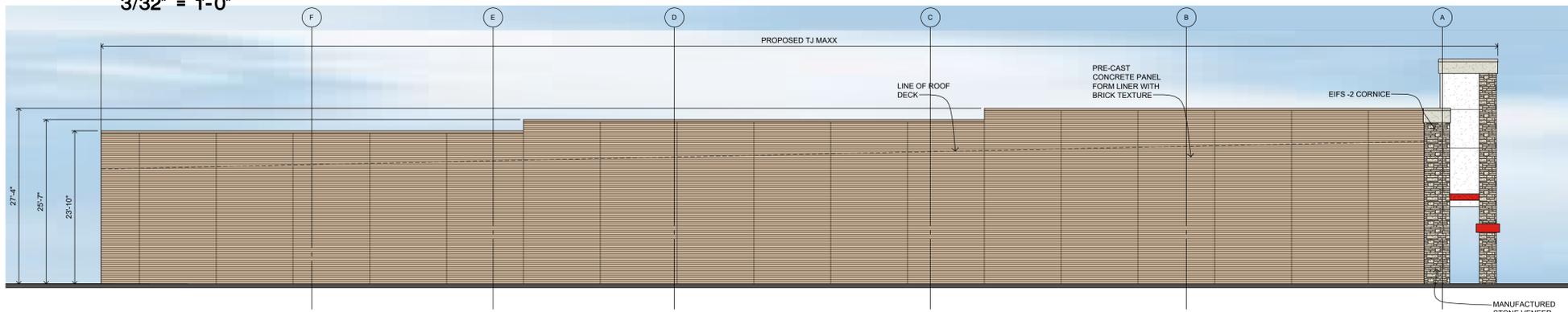
sheet:



**Floor Plan**  
 SCALE: 1/16" = 1'-0"



South Elevation  
3/32" = 1'-0"

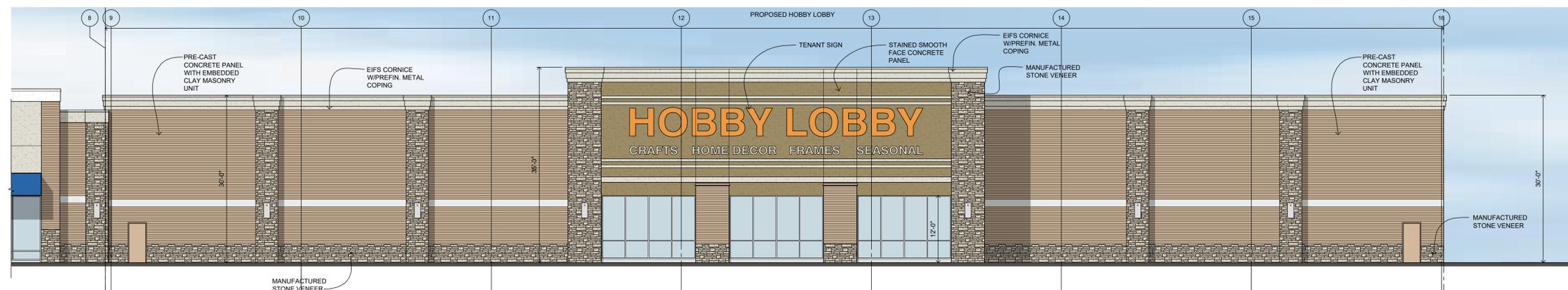


North Elevation  
3/32" = 1'-0"

Exterior Finish Schedule	
Material	Color
BRICK	ENDICOTT - DESSERT (IRONSPOT LIGHT (3 5/8" x 3 5/8" x 11 5/8"))
MANUFACTURED STONE	CULTURED STONE - LIMESTONE GOLDEN BUCKEYE
METAL COPING- 1	EXCEPTIONAL METALS - BROWN STONE
METAL COPING- 2	EXCEPTIONAL METALS - ALMOND
EIFS-1	DRYVIT - CHINA WHITE
EIFS-2	DRYVIT - SANDLEWOOD BEIGE
EIFS-3	DRYVIT - BUCKSKIN
ALUMINUM STOREFRONT SYSTEM	CLEAR ANODIZED ALUMINUM
GLASS/GLAZING	CLEAR



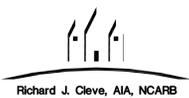
West Elevation  
3/32" = 1'-0"



West Elevation  
3/32" = 1'-0"

project:

Proposed  
**Commercial Development**  
Sunbury Rd. & Mill Run Crossing  
Delaware, OH



Richard J. Cleve, AIA, NCARB

Consulting Architect:  
**ROGVOY**  
ARCHITECTS

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48025-2404

PH 248.540.7700 FX 248.540.2710  
ARCHITECTS@ROGVOY.COM



drawing:

Exterior  
Elevations

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issue date: 19 DEC 2019  
drawn: BDB  
checked: MD  
approved: MD

file number: 19027

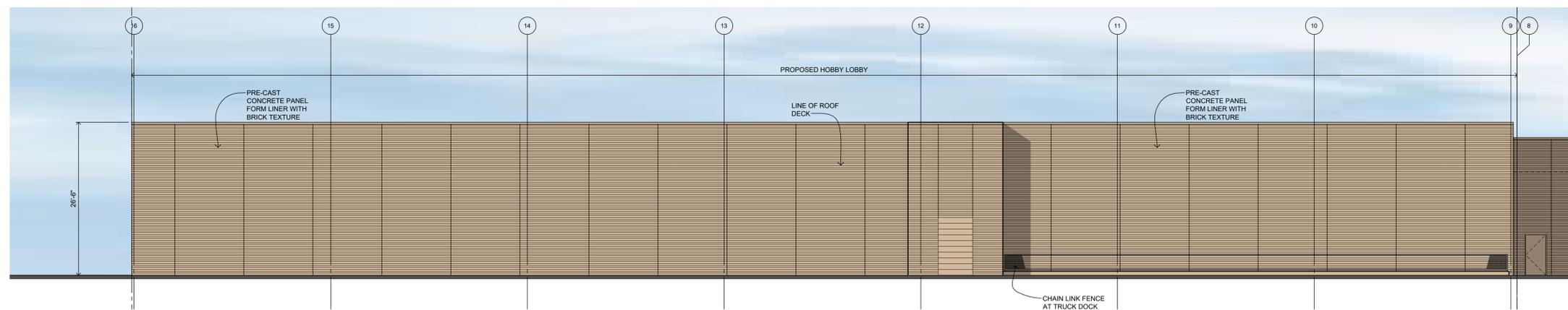
sheet:

A-3

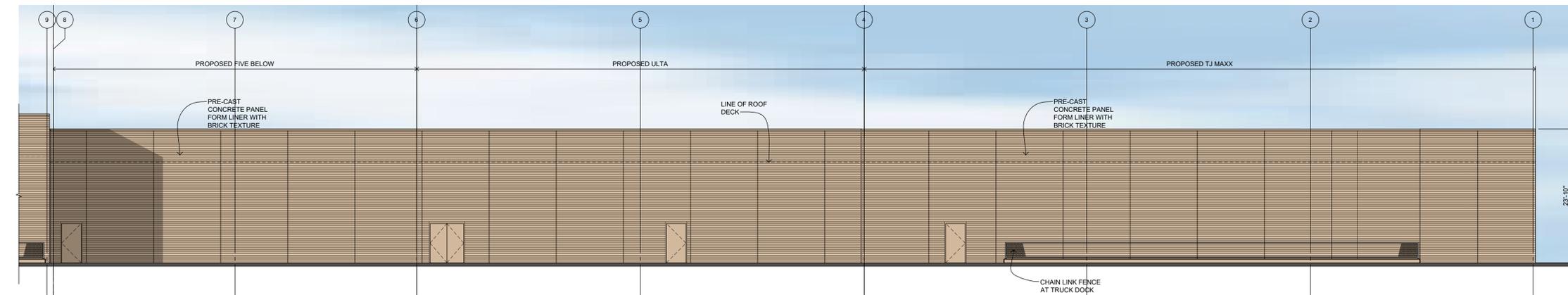
project:

Proposed  
**Commercial Development**  
 Sunbury Rd. & Mill Run Crossing  
 Delaware, OH

Exterior Finish Schedule	
Material	Color
BRICK	ENDICOTT - DESSERT (IRONSPOT LIGHT (3 5/8" x 3 5/8" x 11 5/8"))
MANUFACTURED STONE	CULTURED STONE - LIMESTONE GOLDEN BUCKEYE
METAL COPING- 1	EXCEPTIONAL METALS - BROWN STONE
METAL COPING- 2	EXCEPTIONAL METALS - ALMOND
EIFS-1	DRYVIT - CHINA WHITE
EIFS-2	DRYVIT - SANDLEWOOD BEIGE
EIFS-3	DRYVIT - BUCKSKIN
ALUMINUM STOREFRONT SYSTEM	CLEAR ANODIZED ALUMINUM
GLASS/GLAZING	CLEAR



**East Elevation**  
 3/32" = 1'-0"



**East Elevation**  
 3/32" = 1'-0"

Richard J. Cleve, AIA, NCARB  
 Consulting Architect:  
**ROGVOY**  
 ARCHITECTS  
 32500 TELEGRAPH ROAD  
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 48025-2404  
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 ARCHITECTS@ROGVOY.COM



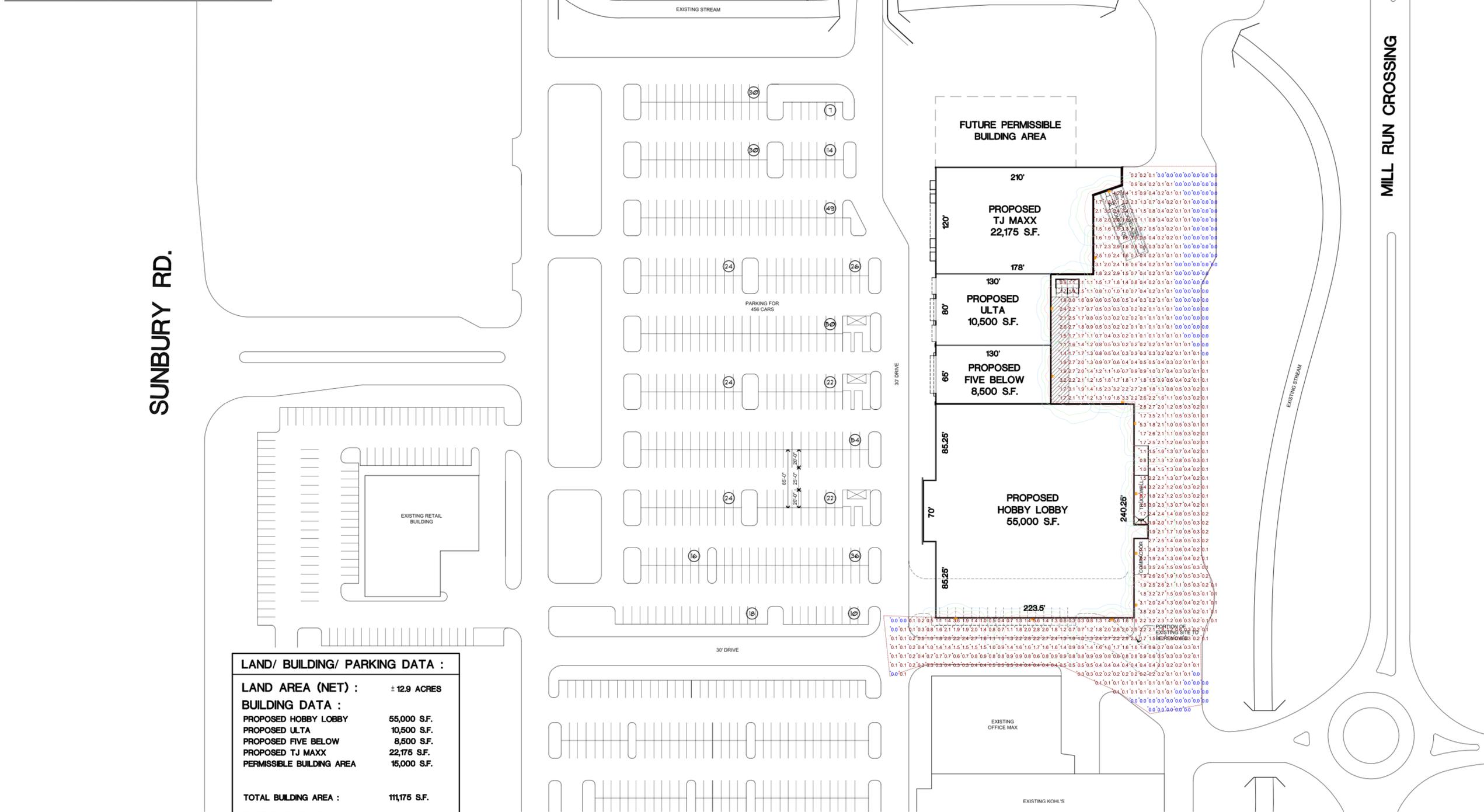
drawing:  
**Exterior Elevations**

DO NOT SCALE DRAWING  
 issue date: 19 DEC 2019  
 drawn: BDB  
 checked: MD  
 approved: MD

file number: 19027  
 sheet:

Symbol	Label	Image	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage	Efficiency	Distribution	Polar Plot	Notes
	W4		12	HUBBELL OUTDOOR	LCN3-24LSK-105-4	Medium LNC3 Litepak	C-70-CRI	1	LCN3-24LSK-105-4.ies	7556	1	82.8	100%			

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Wall Lighting Calc	+	0.9 fc	6.7 fc	0.0 fc	N/A	N/A



<b>LAND/ BUILDING/ PARKING DATA :</b>	
<b>LAND AREA (NET) :</b>	± 12.9 ACRES
<b>BUILDING DATA :</b>	
PROPOSED HOBBY LOBBY	55,000 S.F.
PROPOSED ULTA	10,500 S.F.
PROPOSED FIVE BELOW	8,500 S.F.
PROPOSED TJ MAXX	22,175 S.F.
PERMISSIBLE BUILDING AREA	15,000 S.F.
<b>TOTAL BUILDING AREA :</b>	
	111,175 S.F.
<b>PARKING DATA :</b>	
PARKING REQUIRED:	445 SPACES
RETAIL:	445 SPACES
<small>1 SPACE FOR 250 S.F. (111,175 / 250 = 445 SPACES)</small>	
<b>PARKING PROVIDED :</b>	
	456 SPACES
<small>(41 SPACES/ 1,000 S.F. GROSS)</small>	

Plan View  
Scale - 1" = 60ft

Issued for:  
OWNER REVIEW: 11 JUL 2019  
OWNER REVIEW: 24 JUL 2019  
OWNER REVIEW: 09 AUG 2019  
OWNER REVIEW: 28 OCT 2019  
OWNER REVIEW: 29 OCT 2019  
OWNER REVIEW: 21 NOV 2019  
OWNER REVIEW: 07 DEC 2019

project:

Proposed  
*Commercial Development*  
Sunbury Road and Mill Run Crossing  
Delaware, Ohio

**ROGVOY**  
ARCHITECTS

32500 TELEGRAPH ROAD  
SUITE 250  
BINGHAM FARMS, MICHIGAN  
48025-2404

PH 248.540.7700 FX 248.540.2710  
www.rogvoy.com

drawing:  
**Conceptual Site Plan**

DO NOT SCALE DRAWING

issue date: 17 JUL 2019  
drawn: KS  
checked: MD  
approved: MD

file number: 19027  
sheet:

**SP-1**

**SITE PLAN**  
SCALE: 1"=50'-0"

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19027 Delaware Development  
Delaware, OH  
Lighting Layout for Rogvoy Architects

Designer  
Date  
12/18/2019  
Scale  
Not to Scale  
Drawing No.  
Summary

**LNC3**  
MEDIUM LED LITEPAK

**FEATURES**

- Litepak LNC3 is a mid-sized wallpack in the popular Litepak series
- The LNC3 features luminaires with TR optics and four different lumen packages, multiple distributions and CCT for maximum light level and mounting height flexibility
- Capable of replacing up to 250w HID solutions at over 70% energy savings
- Energy efficient LEDs provide 70%+ energy savings with little to no maintenance when compared to traditional light sources
- Typical mounting heights of 8-20'

DATE: \_\_\_\_\_ LOCATION: \_\_\_\_\_  
 TYPE: \_\_\_\_\_ PROJECT: \_\_\_\_\_  
 CATALOG #: \_\_\_\_\_



24L with diffuser  
 Occupancy Sensor  
 24L without diffuser

RELATED PRODUCTS  
 # LNC # LNC2 # LNC4



**CONTROL TECHNOLOGY**



**SPECIFICATIONS**

**CONSTRUCTION**

- Die-cast aluminum housing protects components and provides an architectural appearance
- Casting thermally conducts LED heat to optimize performance and long life
- Powder paint finish provides durability in outdoor environments
- Four 1/2" conduit entries (top, bottom, and sides) provided for surface conduit
- Zero uplight distributions using individual acrylic LED optics provide IES type II, III and IV distributions
- CS - Frosted acrylic diffuser option for reduced glare
- CSU - Frosted acrylic diffuser for inverted "up" mounting applications (lens required)

**OPTICS**

- Ambient operating temperature -40°C to 40°C
- 3000K, 4000K and 5000K CCT nominal with 70 CRI
- Available in 4 or 24 LED configuration
- L70 at 60,000 hrs (Projected per IESNA TM-21-10, see table on page 3 for all values)

**INSTALLATION**

- Quick-mount adapter with gasket seal provides easy installation to wall or to recessed junction box (4" square junction box)

**INSTALLATION (CONTINUED)**

- Fixture attaches by two Allen-head hidden fasteners for tamper resistance
- Designed for direct j-box mount or conduit feed on all four sides in single SKU

**ELECTRICAL**

- 120-277, 347 and 480 voltage, 50/60Hz, 0-10V dimming drivers
- Electronic driver
- 10KA surge protection

**CONTROLS**

- Button photocontrol for dusk to dawn energy savings
- 7-pin photo-receptacle available for twist lock photocell and controls by others
- Occupancy sensor options available for complete on/off and dimming control

- SiteSync pre-commissioned wireless controls (with or without sensor)

- In addition, LITEPAK can be specified with SiteSync™ wireless control system for reduction in energy and maintenance cost while optimizing light quality 24/7

- See ordering information or visit [www.hubbellighting.com/sitesync](http://www.hubbellighting.com/sitesync) for more details

**CERTIFICATIONS**

- DLC® DesignLights Consortium Qualified, with some Premium Qualified configurations. Please refer to the DLC website for specific product qualifications at [www.designlights.org](http://www.designlights.org)
- Listed to UL1598 and CSAC22.24250-0.24 for wet locations
- Listed to UL1598 and CSAC22.24250-0.24 for wet locations
- PSES Assembly
- EDA Approved (D000K configurations)

**WARRANTY**

- 5 year limited warranty
- See [HLJ Standard Warranty](#) for additional information

KEY DATA	
Lumen Range	2,991-7603
Wattage Range	28-83
Efficacy Range (LPW)	84-115
Fixture Projected Life (Hours)	L70>60K
Weights lbs. (kg)	18.0 (8.2)

**LNC3**  
MEDIUM LED LITEPAK

**ORDERING GUIDE**

Example: LNC3-24L-3K-035-2-U-DB-PCU

CATALOG # \_\_\_\_\_

**ORDERING INFORMATION**

Series	# LEDs	CCT/CRI	Drive Current	IES Distribution	Voltage	Finish
LNC3	24L 24 LEDs	3K 3000K nominal, 70 CRI 4K 4000K nominal, 70 CRI 5K 5000K nominal, 70 CRI	035 350mA 050 500mA 075 750mA 105 1050mA	2 Type I 3 Type II 4 Type III 5 Type IV	1 120V 2 208V 3 240V 4 277V 5 480V F 347V	DB Dark Bronze Textured BL Black Textured WH White Textured GR Gray Textured PS Platinum Silver Smooth CC Custom Color

Control Options	Options
PCU Universal Button Photocontrol	F Fixing (must specify voltage per footnote)
TRP Trip PCP	CS Frosted acrylic diffuser
SCP Programmable occupancy sensor**	CSU InvertedUp mounting frosted acrylic diffuser (required for up/inverted fixture installations, factory install only see page 3)
SWP SiteSync Pre-Commission™	E Integral battery backup rated for 0°C
SWPM SiteSync Pre-Commission w/ OCC Sensor™	EH Integral battery backup with heater rated for 30°C
	2DR Dual Driver*

- Notes:
- 1 Must specify voltage (20 or 277 only for E & EH)
  - 2 Factory install only. Not available with SCP or SWPM sensor/control options
  - 3 Must order minimum of one remote control to program dimming settings, 0-10V fully adjustable dimming with automatic daylight calibration and different time delay settings, 120-277V only
  - 4 PCU option not applicable. Included in sensor 3P - not to BL, 2P - not to 2DR
  - 5 250mA, 500mA & 750mA versions only. Not available with F, SWP or SWPM options
  - 6 Accepts standard 3, 5, and 7 pin ANSI controls by others. Not available with PCU, SWP or SWPM control options
  - 7 Must specify group and zone information at time of order. See [www.hubbellighting.com/products/litepak](http://www.hubbellighting.com/products/litepak) for fixture details
  - 8 Specify time delay, dimming level and mounting height
  - 9 750mA and 1050mA versions only, not available with 347V/480V
  - 10 1050mA only, not available with 347V or 480V

**ACCESSORIES AND SERVICES (ORDERED SEPARATELY)**

Catalog Number	Description
<input type="checkbox"/> LNC3-CS	Frosted acrylic comfort shields/lens, reduces glare and improves uniformity with only 20% lumen reduction
<input type="checkbox"/> SCP-Remote	Remote Control for SCP/F option. Order at least one per project to program and control the occupancy sensor
<input type="checkbox"/> SWUSB	SiteSync interface software loaded on USB flash drive for use with owner supplied PC (Windows based only). Includes SiteSync license, software and USB radio bridge node
<input type="checkbox"/> SWTAB	Windows tablet and SiteSync interface software. Includes tablet with preloaded software, SiteSync license and USB radio bridge node*
<input type="checkbox"/> SWBRG	SiteSync USB radio bridge node only. Order if a replacement is required or if an extra bridge node is requested
<input type="checkbox"/> SW7PR	SiteSync 7 Pin on fixture module On/Off/Dim, Daylight Sensor 120-480VAC

- Notes:
- \* When ordering SiteSync at least one of these two methods options must be ordered per project
  - \* Available as a SiteSync retrofit solution for fixtures with an existing 7-pin receptacle

**Hubbell Control Solutions – Accessories (Sold Separately)**

- NX Distributed Intelligence™**
- NXOFM-IRID-LINV On-Fixture Module (7-pin), On / Off / Dim, Daylight Sensor with HubNet Radio and Bluetooth® Radio, 120-480VAC
- wiSCAPE® Lighting Control**
- WIR-RME-L On-Fixture Module (7-pin or 5-pin), On / Off / Dim, Daylight Sensor with wiSCAPE Radio, 10-480VAC
- For additional information related to these accessories please visit [www.hubbelloutdoor.com](http://www.hubbelloutdoor.com). Options provided for use with integrated sensor please view specification sheet ordering information table for details.

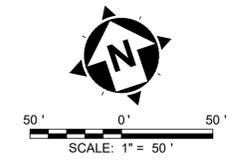


PLAN REVIEW H:  
Enclaves at Ravines  
At Olentangy



**LEGEND:**

- PR. CONTOURS (1' INTERVAL)
- PR. LOT TREE
- PR. EVERGREEN TREE
- EX. TREE LINE
- EX. SETBACK



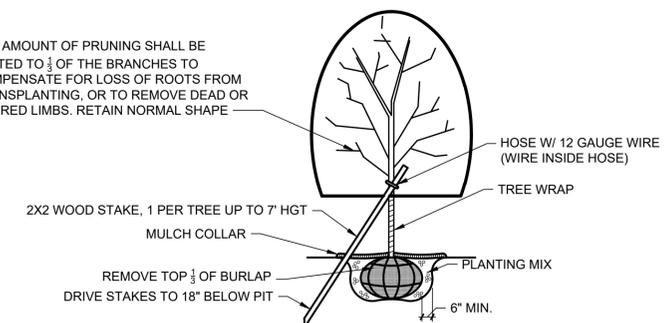
**NOTES:**

1. CONFIRM LOCATION OF ALL UTILITIES AND SUBSURFACE DRAINS
2. ALL PLANTING OPERATIONS SHALL ADHERE TO AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS
3. PROTECT ALL VEGETATION NOT SCHEDULED TO BE REMOVED. ANY DAMAGE TO VEGETATION THAT IS TOO REMAIN SHALL BE REPLACED WITH LIKE SPECIES AND SIZE.
4. PLANTING SOIL AND MULCH FOR ALL TREES SHALL BE PER APPROPRIATE DETAIL.
5. FINE GRADE, TOPSOIL, AND SEED ALL DISTURBED AREAS. TAKE SPECIAL CARE NOT TO OVERSEED ONTO PAVED AREAS.
6. SEED ALL LAWN AND RETENTION AREAS WITH SPECIFIED SEED MIXTURE.
7. CONTRACTOR SHALL PROVIDE A TWO YEAR WARRANTY UPON ACCEPTANCE OF PLANTING INSTALLATION BY LANDSCAPE ARCHITECT AND OWNER. ANY PLANT MATERIALS THAT ARE DEAD OR UNACCEPTABLE CONDITION IN THE OPINION OF THE LANDSCAPE ARCHITECT, SHALL BE REPLACED IN SPECIES, SIZE, AND QUALITY PER THE ORIGINAL SPECIFICATIONS, BY THE END OF THE FOLLOWING GROWING SEASON.
8. ALL NURSERY TAGS SHALL REMAIN ON PLANTED TREES UNTIL REMOVED BY THE CITY OF DELAWARE DEPARTMENT OF GROUNDS AND FACILITIES.
9. SHOULD A DISCREPANCY BE FOUND BETWEEN THE PLANTING PLAN AND PLANT SCHEDULE, THE PLANTING PLAN SHALL TAKE PRECEDENCE.
10. THE MAINTENANCE OF THE MOUND AND ASSOCIATED LANDSCAPING SHALL BE THE RESPONSIBILITY OF THE HOMEOWNER'S ASSOCIATION.
11. STREET TREE PLANTING ALONG ROCHDALE RUN SHALL BE PER RAVINES AT THE OLENTANGY SECTION 1 SITE DEVELOPMENT PLAN.

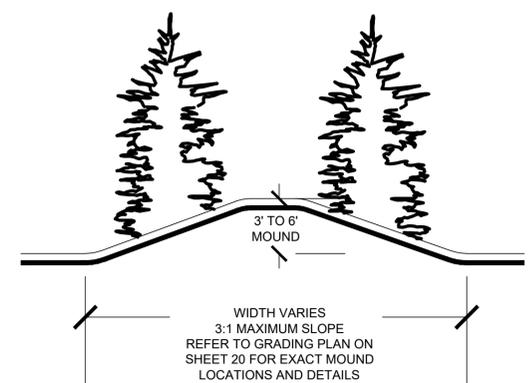
**PLANT LIST (TREE OPTIONS FOR LOT OWNERS)**

BOTANICAL/Common Names	SIZE
<b>DECIDUOUS TREES</b>	
ACER SACCHARUM 'MAJESTY'	2" CAL B&B
MAJESTY SUGAR MAPLE	
QUERCUS ROBUR	2" CAL B&B
ENGLISH OAK	
QUERCUS RUBRA	2" CAL B&B
RED OAK	
ACER FREEMANII 'JEFFERSRED'	2" CAL B&B
AUTUMN BLAZE FREEMAN MAPLE	
ACER RUBRUM 'KARPICK'	2" CAL B&B
KARPICK RED MAPLE	
<b>ORNAMENTAL TREES</b>	
SYRINGA RETICULATE	2" B&B
JAPANESE TREE LILAC	
AMELANCHIER CANADENSIS 'TRAZAM'	2" B&B
TRAZAM SERVICEBERRY	
CRATAEGUS CRUSGALLI VAR. INERMIS	2" B&B
THORNLESS HAWTHORN	
MALUS PRAIRIEFIRE	2" B&B
PRAIRIEFIRE CRAB	
CORNUS FLORIDA	2" B&B
FLOWERING DOGWOOD	

THE AMOUNT OF PRUNING SHALL BE LIMITED TO 1/4 OF THE BRANCHES TO COMPENSATE FOR LOSS OF ROOTS FROM TRANSPANTING, OR TO REMOVE DEAD OR INJURED LIMBS. RETAIN NORMAL SHAPE



**DECIDUOUS TREE UNDER 3" CALIPER**  
NTS



**MOUND SECTION**  
NTS

**REQUIREMENTS:**

- DECIDUOUS INDIVIDUAL LOT TREES**  
ONE TREE SHALL BE PROVIDED FOR EVERY INDIVIDUAL LOT OWNER PER THE APPROVED PLANT LIST.
- EVERGREEN TREES**  
INSTALL EQUAL NUMBER OF SPECIES LISTED, EVENLY DISTRIBUTE NORWAY, SERBIAN, BLUE SPRUCE, AND AUSTRIAN PINE PLANT SPECIES WITHIN THE AREA SHOWN ON THE PLANS TO PRODUCE A NATURAL EFFECT. DOUBLE ROW OF STAGGERED 6-FOOT-HIGH MINIMUM EVERGREEN TREES PLANTED 20 FEET ON CENTER SHALL BE INSTALLED ALONG CURVE ROAD ADJACENT TO LOTS 46-59.

**FINAL DEVELOPMENT PLAN  
ENCLAVE AT THE RAVINES OF OLENTANGY:**

CITY OF DELAWARE, OHIO  
APPROVED BY CITY COUNCIL XX/XX/XX PER ORDINANCE XX-XXX  
APPROVED BY PLANNING COMMISSION ON XX/XX/XX PER CASE # XX-XXX

SHADE TREE COMMISSION	DATE
ZONING ADMINISTRATOR	DATE
GROUNDS AND FACILITIES DIRECTOR	DATE

your trusted advisor  
**engineers  
architects  
planners**  
**consultants**

DATE	REVISION	NO	REVIEW	ISSUED FOR:
			2/5/2020	AS SHOWN
				BAB
				BBC
				BAG

**ENCLAVE II CONDOMINIUMS**  
- CITY OF DELAWARE, DELAWARE COUNTY -

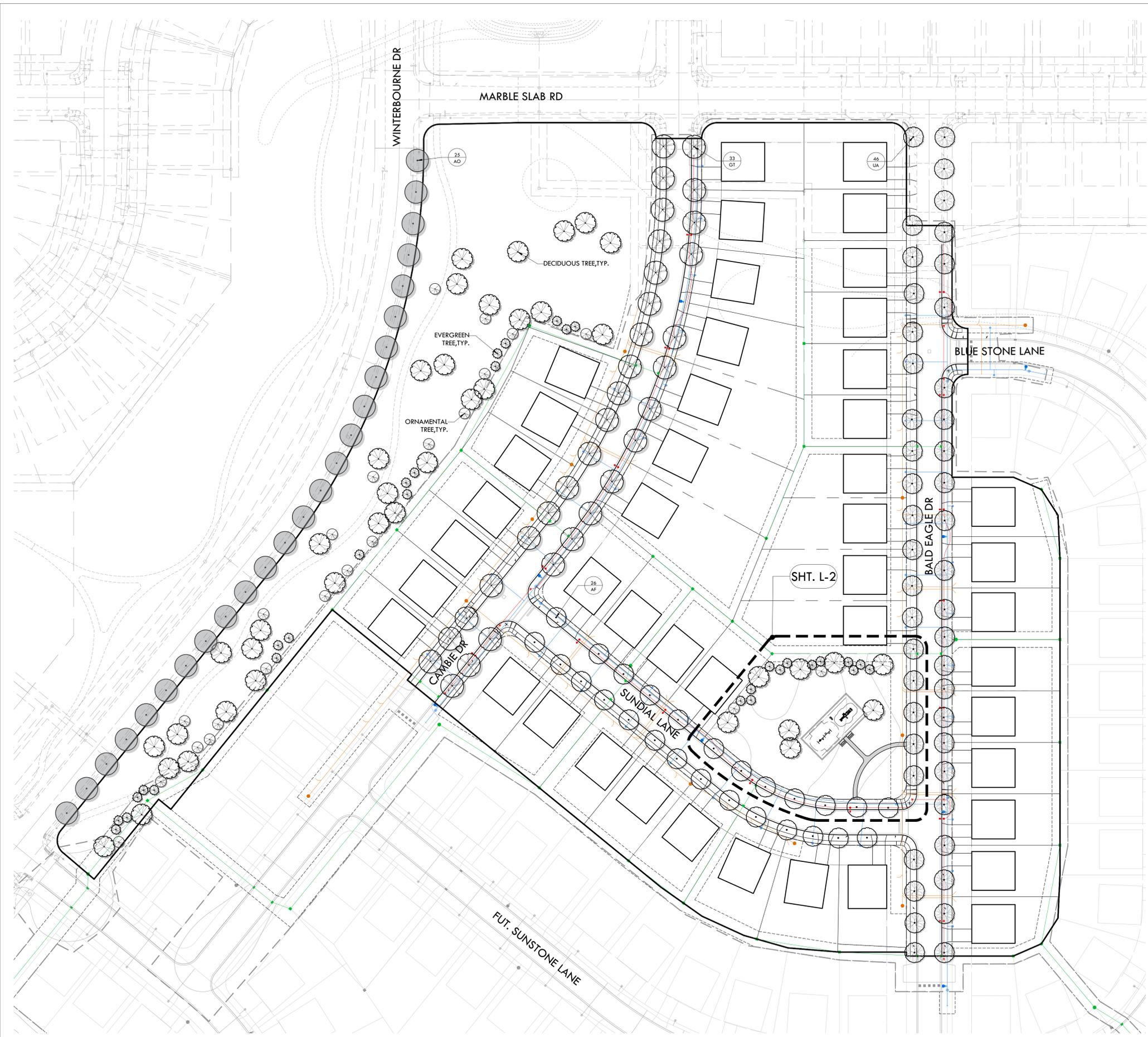
**LANDSCAPING PLAN**

PROJECT NO.	190577
DISCIPLINE	CIVIL
SHEET NAME	LNDSCP-PLN
SHEET	27
OF	40





PLAN REVIEW I:  
Communities at Glenross  
Section 16



**STREET TREE PLANT LIST**

DECIDUOUS TREES				
QTY	CODE	COMMON NAME	LATIN NAME	SIZE
26	AF	AUTUMN BLAZE MAPLE	ACER X FREEMANII 'JEFFERSRED'	2.5" CAL
46	UA	PIONEER ELM	ULMUS 'VALLEY FORGE'	2.5" CAL
33	GT	SKYLINE HONEYLOCUST	GLEDITSIA TRICANTHOS	2.5" CAL
25	AO	OCTOBER GLORY MAPLE	ACER 'OCTOBER GLORY'	2.5" CAL

**OPEN SPACE PLANT LIST**

DECIDUOUS TREES				
QTY	CODE	COMMON NAME	LATIN NAME	SIZE
8		LONDON PLANE TREE	PLATANUS OCCIDENTALIS	2.5" CAL
8		TULIP TREE	LIRIODENDRON TULIPIFERA	2.5" CAL
8		AMERICAN SWEETGUM	LIQUIDAMBAR STYRACIFLUA	2.5" CAL
8		SWAMP WHITE OAK	QUERCUS BICOLOR	2.5" CAL

ORNAMENTAL TREES				
QTY	CODE	COMMON NAME	LATIN NAME	SIZE
7		IVORY SILK LILAC	SYRINGA RETICULATA	2" CAL
7		PRAIRIE FIRE CRABAPPLE	MALUS 'PRAIRIE FIRE'	2" CAL
6		WINTER KING HAWTHORN	CRATAEGUS VIRIDIS 'WINTERKING'	2" CAL

EVERGREEN TREES				
QTY	CODE	COMMON NAME	LATIN NAME	SIZE
10		NORWAY SPRUCE	PICEA ABIES	6' HT
10		WHITE SPRUCE	PICEA GLAUCA	6' HT

MARK	DATE	DESCRIPTION

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**COMMUNITIES AT GLENROSS SEC 16**  
CITY OF DELAWARE, DELAWARE COUNTY, OHIO  
OVERALL SITE LANDSCAPE PLAN



Suite 200  
475 Metro Place South  
Dublin, OH 43017



9590 S. Old State Road.  
Lewis Center, OH  
43035(blendongardens.com)  
Phone: (614) 840-0500

DATE: 01.07.20

DRAWN BY: T. OSTERFELD

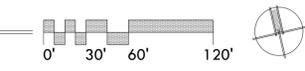
CHECKED BY: B. THORNTON

PROJECT NUMBER:

SHEET:

**L-1**

**1 OVERALL LANDSCAPE PLAN**  
Scale: 1" = 60'-0"







PLAN REVIEW J:  
Charter NEX

# SITE ENGINEERING PLANS FOR: SITE IMPROVEMENTS FOR CHARTER NEX CITY OF DELAWARE, DELAWARE COUNTY, OHIO

**ARCHITECT:**

CARNEY RANKER ARCHITECTS  
5925 WILCOX PL E  
DUBLIN, OH 43016  
PH: (614) 792-1000  
FX: (614) 792-1001

**CIVIL ENGINEER:**

THE KLEINGERS GROUP  
350 WORTHINGTON ROAD, SUITE B  
WESTERVILLE, OHIO 43082  
PH: (614) 882-4311  
FX: (614) 882-4479

**OWNER:**

CHARTER NEX  
1188 S HOUK RD  
DELAWARE, OH 43015  
PH: (740) 369-2770

**APPROVED BY:**

CITY OF DELAWARE, OHIO

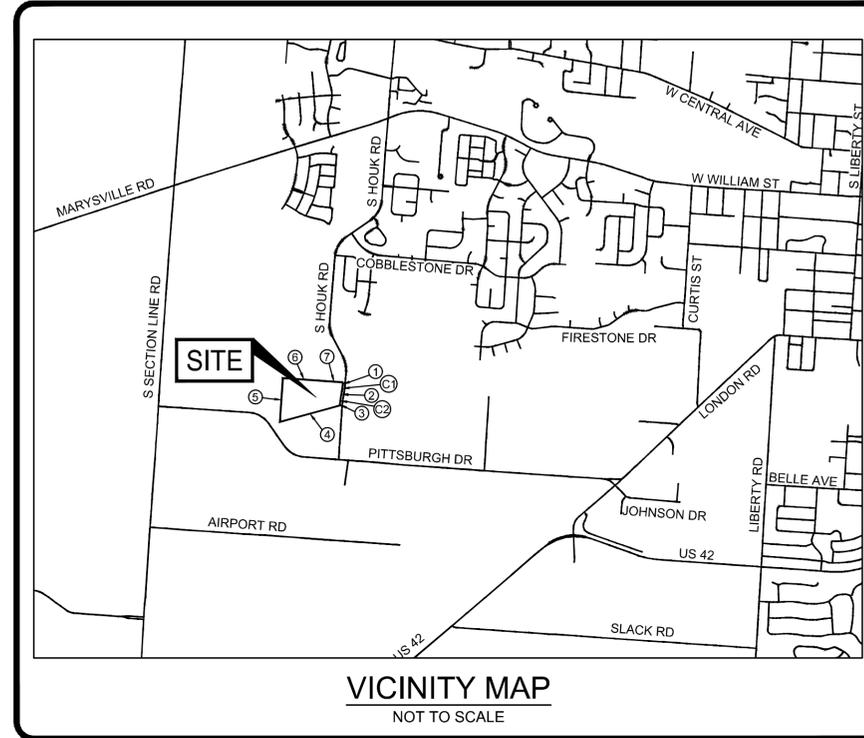
\_\_\_\_\_  
DAVID M. EFLAND, AICP  
DIRECTOR OF PLANNING AND COMMUNITY DEVELOPMENT  
DATE

\_\_\_\_\_  
WILLIAM L. FERRIGNO, P.E.  
PUBLIC WORKS DIRECTOR/CITY ENGINEER  
OHIO REGISTERED PROFESSIONAL ENGINEER NO. 56942  
DATE

\_\_\_\_\_  
MATTHEW B. WEBER, P.E.  
DEPUTY CITY ENGINEER  
OHIO REGISTERED PROFESSIONAL ENGINEER NO. 65563  
DATE

\_\_\_\_\_  
BLAKE JORDAN, P.E.  
PUBLIC UTILITIES DIRECTOR  
OHIO REGISTERED PROFESSIONAL ENGINEER NO. 77515  
DATE

APPROVAL OF THESE PLANS DOES NOT CONSTITUTE ASSURANCE TO OPERATE AS INTENDED. THE REVIEWER DOES NOT ACCEPT RESPONSIBILITY FOR THE INTEGRITY OF THE PLANS.



**VICINITY MAP**  
NOT TO SCALE

**BOUNDARY DATA**

LINE #	BEARING	DISTANCE	CURVE #
①	N 03°59'21"E	80.10'	C1
②	N 10°43'55"E	157.32'	
③	N 03°45'21"E	43.92'	
④	S 74°51'51"W	1358.35'	C2
⑤	N 03°51'45"E	955.50'	
⑥	S 85°56'54"E	927.26'	
⑦	S 85°53'16"E	389.72'	

INFRASTRUCTURE ITEM	PUBLIC	PRIVATE	COMMENTS
SANITARY SEWER		X	PRIVATE MAIN & SANITARY SERVICE
STORM SEWER		X	ONSITE STORM SEWER SYSTEM TO OUTLET TO THE NORTH
WATER		X	WATER SERVICE
STREETS		X	EXCEPT DRIVE APRON IN R/W

NOTE: THE CITY RESERVES THE RIGHT TO ENSURE ALL INFRASTRUCTURE IS PROPERLY CONSTRUCTED AND INSTALLED, REGARDLESS OF OWNERSHIP.

CHANGE #	PREPARED BY	DESCRIPTION OF CHANGE	PAGE #	APPROVED BY	DATE

SITE AREA		
94,9118.94 SQ. FT.		
21.789 ACRE(S)		
BUILDING	2.988 ACRE(S)	14 % OF TOTAL AREA
PAVEMENT	1.951 ACRE(S)	9 % OF TOTAL AREA
GREEN/OPEN SPACE	16.850 ACRE(S)	77 % OF TOTAL AREA
BUILDING SETBACKS		
S HOUK ROAD	REQUIRED 50 FT.	PROVIDED 50 FT.
SIDE/REAR YARD	REQUIRED 20 FT.	PROVIDED 20 FT.
PARKING SETBACKS		
S HOUK ROAD	REQUIRED 20 FT.	PROVIDED 20 FT.
SIDE/REAR YARD	REQUIRED 10 FT.	PROVIDED 10 FT.

Sheet Number	Sheet Title
C000	TITLE SHEET
C100	GENERAL NOTES & DETAILS
C101	DETAILS
C200	DEMOLITION PLAN
C300	LOCATION PLAN
C400	UTILITY PLAN
C401	UTILITY PROFILES
C500	GRADING PLAN
C600	EROSION CONTROL PLAN
C601	EROSION CONTROL NOTES
C602	EROSION CONTROL DETAILS

**DESCRIPTION**

SITE IMPROVEMENTS AT THE CHARTER NEX SITE IN CITY OF DELAWARE, DELAWARE COUNTY, OHIO, INCLUDING A BUILDING EXPANSION, AND PAVING AND STORM WATER MANAGEMENT IMPROVEMENTS.

**PROJECT BENCHMARK**

- TBM #1:**  
RR SPIKE, SOUTH SIDE OF THE 18" OAK TREE THAT IS APPROXIMATELY 198' NORTH OF THE NORTH WEST CORNER OF THE EXISTING BUILDING.  
ELEV=945.90'
- TBM #2:**  
BOX-CUT ON SOUTH WEST CORNER OF LIGHT POLE BASE APPROXIMATELY 62' SOUTH EAST OF THE SOUTH EAST CORNER OF THE NORTH ENTRANCE OFF OF SOUTH HOUK ROAD.  
ELEV=950.10'
- TBM #3:**  
NORTH BOLT ON FIRE HYDRANT FLANGE APPROXIMATELY 69' SOUTH EAST OF THE SOUTH EAST CORNER OF THE EXISTING BUILDING.  
ELEV=950.10'

**FLOOD DESCRIPTION**

PROPOSED SITE ON SOUTH HOUK ROAD IS LOCATED IN ZONE X ON FIRM MAP NUMBER 39041C0111K, DATED APRIL 16, 2009.

**ZONING**

THE PROPERTY IS LOCATED AT 1188 SOUTH HOUK ROAD. THE ZONING OF THE SITE IS M-2 (GENERAL MANUFACTURING). SURROUNDING ZONING IS M-2.

**UTILITY COMPANIES:**

- AMERICAN ELECTRIC POWER (AEP)  
COLUMBUS SOUTHERN POWER  
850 TECH CENTER DRIVE  
GAHANNA, OH 43230  
SUBDIVISIONS & COMMERCIAL  
614-883-6831
- FRONTIER COMMUNICATIONS  
1300 COLUMBUS SANDUSKY ROAD  
MARION, OH 43302  
740-383-0551
- CITY OF DELAWARE  
DEPT OF PUBLIC UTILITIES  
225 CHERRY STREET  
DELAWARE, OH 43015  
740-203-1900
- DEL-CO WATER COMPANY  
6658 OLENTANGY RIVER ROAD  
DELAWARE, OH 43015  
740-548-7746, EXT. 2401
- COLUMBIA GAS  
920 GOODALE BLVD  
COLUMBUS, OH 43212  
1-614-818-2107

CIVIL ENGINEERING SURVEYING LANDSCAPE ARCHITECTURE  
www.kleingers.com  
350 Worthington Rd  
Suite B  
Westerville, OH 43082  
614.882.4311



NO.	DATE	DESCRIPTION

**CHARTER NEX  
2 BAY ADDITION**  
1188 SOUTH HOUK ROAD  
DELAWARE, OHIO

PROJECT NO: 100276.003  
DATE: 2019-12-04

SCALE:

SHEET NAME:

**TITLE SHEET**

SHEET NO:  
**C000**



## LAND DEVELOPMENT GENERAL NOTES

GEN1 THE CITY OF DELAWARE (COD) DETAILED SPECIFICATIONS TOGETHER WITH THE CITY OF COLUMBUS (COC) CONSTRUCTION AND MATERIAL SPECIFICATION (CMS), INCLUDING ALL SUPPLEMENTS HERETO, MOST RECENT EDITION, SHALL GOVERN ALL MATERIAL AND WORKMANSHIP INVOLVED IN THE IMPROVEMENTS SHOWN IN THESE PLANS UNLESS OTHERWISE NOTED.

GEN2 ALL WORK SHALL BE COMPLETELY ACCEPTABLE TO THE COD OFFICIALS. NO WORK SHALL BE COMMENCED UNTIL ARRANGEMENTS HAVE BEEN MADE WITH THE CITY ENGINEER FOR INSPECTION. NECESSARY LINE AND GRADE STAKING WILL BE PROVIDED BY THE DEVELOPER. CUT SHEETS SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT 2 FULL WORKING DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES AND MUST BE APPROVED BY THE COD PRIOR TO THE BEGINNING OF CONSTRUCTION.

GEN3 PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS NECESSARY TO COORDINATE AND PROVIDE FULL-TIME INSPECTION SERVICE BY THE COD FOR THE PROPOSED WORK. COST OF INSPECTION SHALL BE PAID FOR BY THE DEVELOPER.

GEN4 THE CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO THE COD ENGINEERING DEPARTMENT AT LEAST 7 DAYS PRIOR TO ANY CONSTRUCTION.

GEN5 TWENTY-FOUR HOUR ADVANCE NOTIFICATION IS REQUIRED FOR ALL WORK REQUIRING INSPECTION, TESTING, OR APPROVAL BY THE CITY ENGINEER OR BUILDING DEPARTMENT.

GEN6 THE CONTRACTOR IS RESPONSIBLE TO NOTIFY THE CITY ENGINEER AND REQUEST A FINAL PUNCH-OUT INSPECTION OF THE SITE ONCE ALL ITEMS ON THE APPROVED DEVELOPMENT PLANS HAVE BEEN COMPLETED.

GEN7 THE DEVELOPER IS RESPONSIBLE FOR HAVING "AS-BUILT" CONSTRUCTION DRAWINGS SENT TO THE CITY ENGINEER PRIOR TO THE PROJECT BEING COMPLETED. PLANS SHALL BE SUBMITTED IN BOTH PAPER AND DIGITAL FORMAT. THE PLANS MUST INCLUDE TOP-OF-CASTING AND FLOW-LINE ELEVATIONS FOR ALL SANITARY AND STORM STRUCTURES, FLOOD ROUTING SWALE VERIFICATION, AND IDENTIFY ALL FIELD MODIFICATIONS TO THE APPROVED PLAN SET. THE "AS-BUILT" DRAWINGS MUST ALSO INCLUDE STATE PLANE COORDINATES FOR ALL NEWLY CONSTRUCTED PUBLIC UTILITY STRUCTURES INCLUDING SANITARY STORM STRUCTURES, MAINLINE WATER VALVES, AND FIRE HYDRANTS.

GEN8 ANY MODIFICATION TO THE WORK AS SHOWN ON THESE DRAWINGS MUST BE SUBMITTED IN WRITING FROM THE ENGINEER OF RECORD (EOR), SEALED BY THE EOR, AND RECEIVE WRITTEN APPROVAL BY THE CITY ENGINEER. ALL MODIFICATIONS MUST FOLLOW THE PLAN REVISION PROCESS SET FORTH BY THE CITY ENGINEER AND ARE SUBJECT TO PLAN REVISION FEES.

GEN9 THE CONTRACTOR OR DEVELOPER SHALL SECURE AND PAY FOR ALL PERMITS AND GOVERNMENT FEES, LICENSES, AND INSPECTIONS NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE IMPROVEMENTS SHOWN ON THE PLANS. ALL PERTINENT STANDARD CONSTRUCTION DRAWINGS ARE AVAILABLE UPON REQUEST OF THE ENGINEERING DEPARTMENT.

GEN10 IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VISIT THE SITE AND VERIFY THE EXTENT OF THE WORK TO BE PERFORMED PRIOR TO MAKING HIS BID, INCLUDING BUT NOT LIMITED TO THE REMOVAL OF ANY AND ALL ITEMS.

GEN11 THE CONTRACTOR OR SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL SAFETY REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS ALSO THE SOLE RESPONSIBILITY OF THE CONTRACTOR OR SUBCONTRACTOR TO INITIATE, MAINTAIN, AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS, AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR OR SUBCONTRACTOR SHALL ALSO ABIDE BY ALL ORDINANCES OF THE COD.

GEN12 THE CONTRACTOR IS RESPONSIBLE FOR THE INVESTIGATION, LOCATION, SUPPORT, PROTECTION, AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES WHICH ARE SHOWN ON THESE PLANS OR NOT. THE CONTRACTOR SHALL EXPOSE ALL UTILITIES OR STRUCTURES PRIOR TO CONSTRUCTION TO VERIFY THE VERTICAL AND HORIZONTAL EFFECT ON THE PROPOSED CONSTRUCTION. THE CONTRACTOR SHALL CALL, TOLL FREE, THE OHIO UTILITIES PROTECTION SERVICE (UPLS) AT 1-800-362-2764 SEVENTY-TWO HOURS PRIOR TO CONSTRUCTION AND SHALL NOTIFY ALL UTILITY COMPANIES AT LEAST FORTY-EIGHT HOURS PRIOR TO WORK IN THE VICINITY OF THEIR UNDERGROUND LINES.

GEN13 THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE COD AND/OR ENGINEER ASSUME NO RESPONSIBILITY AS TO THE ACCURACY OR DEPTHS OF THE UNDERGROUND FACILITIES AS SHOWN ON THESE PLANS. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST SEVEN DAYS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

GEN14 THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE RELOCATION OF ANY UTILITIES AS REQUIRED BY THE PLAN WITH THE OWNER OF THE AFFECTED UTILITY.

GEN15 WHERE POTENTIAL GRADE CONFLICTS MIGHT OCCUR WITH EXISTING UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO UNCOVER SUCH UTILITIES SUFFICIENTLY IN ADVANCE OF LAYING PIPE OR DUCT FOR THE ENGINEER TO DETERMINE THE EXACT ELEVATION AND MAKE ANY NECESSARY ADJUSTMENTS. COST OF THE ABOVE SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS IN THE CONTRACT.

GEN16 ALL MATERIALS INCLUDING BUT NOT LIMITED TO PIPING, APPURTENANCES, MANHOLES, GRAVEL, ETC. TO BE UTILIZED FOR DEDICATED PUBLIC UTILITIES OR ROADWAYS MUST BE APPROVED BY THE COD ENGINEERING DEPARTMENT. IN ADDITION, ALL CONCRETE PIPE, STORM, AND SANITARY SEWER STRUCTURES WILL BE STAMPED OR HAVING SUCH IDENTIFICATION MARKING THAT SAID PIPE, STORM AND SANITARY STRUCTURES HAVE BEEN INSPECTED BY THE COD AND MEETS THEIR SPECIFICATIONS. PIPE OR STRUCTURES WITHOUT PROPER IDENTIFICATION WILL NOT BE PERMITTED FOR INSTALLATION.

GEN17 ALL FIELD TILES BROKEN DURING EXCAVATION SHALL BE REPLACED BY THE CONTRACTOR TO ORIGINAL CONDITION OR CONNECTED TO THE CURB SUB-DRAIN OR TO THE STORM SEWER SYSTEM AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE PAID FOR BY THE CONTRACTOR.

GEN18 THE CONTRACTOR SHALL REPAIR OR REPLACE ANY AND ALL EXISTING WORK DAMAGED DURING OR DUE TO THE EXECUTION OF THIS CONTRACT TO EQUAL OR BETTER CONDITION PRIOR TO THE DAMAGE. AT THE CONTRACTOR'S OWN EXPENSE, ALL SAID WORK TO BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE ENGINEER OF RECORD AND CITY ENGINEER. ANY DAMAGE TO OTHER UTILITIES CAUSED BY THE CONTRACTOR SHALL BE REPAIRED BY THE APPROPRIATE UTILITY COMPANY AT THE CONTRACTOR'S EXPENSE.

GEN19 CARE SHALL BE EXERCISED WHEN WORKING THE AREA AROUND EXISTING TREES AND SHRUBS. ANY TREES OR SHRUBS NOT MARKED FOR REMOVAL THAT ARE DAMAGED BY THE CONTRACTOR WILL HAVE TO BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE OWNER.

GEN20 THE CONTRACTOR/DEVELOPER IS RESPONSIBLE FOR PROVIDING AND SCHEDULING OF PERSONNEL FOR CONCRETE, ASPHALT, AND SOILS TESTING SERVICES AS REQUIRED BY THE CITY ENGINEER. TESTING IS TO BE PERFORMED UNDER THE DIRECT SUPERVISION OF A REGISTERED TESTING AGENCY APPROVED BY THE CITY ENGINEER.

GEN21 ANY PROPERTY CORNER PINS OR PERMANENT SURVEY MARKERS DISTURBED DURING CONSTRUCTION SHALL BE RESET BY A REGISTERED SURVEYOR AT THE CONTRACTOR'S EXPENSE.

GEN22 EXISTING STRUCTURES TO BE REMOVED OR DEMOLISHED REQUIRE A "DEMOLITION PERMIT" ISSUED BY THE COD BUILDING DEPARTMENT.

GEN23 THE OPEN BURNING OF SITE CLEANING DEBRIS, TRASH, ETC. IS PROHIBITED IN THE COD PER ENVIRONMENTAL PROTECTION AGENCY REGULATION.

GEN24 THE CONTRACTOR IS RESPONSIBLE FOR THE PROVISION AND MAINTENANCE OF A PORTABLE TOILET ON THE SITE DURING ALL PHASES OF CONSTRUCTION.

GEN25 ALL ITEMS OF WORK CALLED FOR ON THE PLANS FOR WHICH NO SPECIFIC METHOD OF PAYMENT IS PROVIDED SHALL BE PERFORMED BY THE CONTRACTOR AND THE COST OF SAME SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS RELATED ITEMS.

GEN26 ALL EARTHWORK OPERATIONS, ESPECIALLY PAVEMENT SUB-GRADE CONSTRUCTION, SHALL BE INSPECTED BY A REGISTERED SOILS ENGINEER EMPLOYED AND PAID FOR BY THE OWNER. ADDITIONALLY, ALL FINAL GRADES SHALL BE FIELD CHECKED BY THE CONSTRUCTION MANAGER UPON COMPLETION OF CONTRACTOR'S OPERATIONS TO DETERMINE IF THE SITE HAS BEEN CONSTRUCTED TO THE GRADES INDICATED.

GEN27 UTILITY TRENCHES WITHIN A 1:1 INFLUENCE OF THE ROADWAY INCLUDING ALL POINTS TO WITHIN 3'-0" BEHIND THE CURB, ARE TO BE FILLED AND COMPACTED PER ITEM 912 OF THE COC CMS. UTILITY TRENCHES WITHIN THE RIGHT OF WAY BUT OUTSIDE THE ROADWAY INFLUENCE SHALL BE FILLED AND COMPACTED WITH SUITABLE NATIVE MATERIAL TO WITHIN 98% OF THE MAXIMUM DRY DENSITY PER ITEM 911 OF COC CMS. ALL OTHER TRENCHES ARE TO BE FILLED AND COMPACTED WITH NATIVE MATERIAL TO WITHIN 95% OF THE MAXIMUM DRY DENSITY. UTILITY TRENCHES THAT ARE UNDER EXISTING OR PROPOSED PAVEMENT SHALL BE REQUIRED TO HAVE BACKFILL TESTED FOR COMPACTION BY AN APPROVED TESTING FIRM.

GEN28 STORM SEWERS, SANITARY SEWERS, AND WATER MAINS CONSTRUCTED IN FILL AREAS GREATER THAN 1'-0" SHALL BE CONSTRUCTED AFTER COMPACTED FILL HAS BEEN INSTALLED TO PROPOSED GRADE. THE STORM SEWERS, SANITARY SEWERS, AND WATER MAINS SHALL BE INSTALLED PER SPECIFIED TRENCH INSTALLATION DETAILS.

GEN29 ITEM 201 CLEARING AND GRUBBING IS TO BE PERFORMED FROM RIGHT-OF-WAY LINE TO RIGHT-OF-WAY LINE, AND, IF DEEMED NECESSARY BY THE CITY INSPECTOR, WITHIN ALL EASEMENTS. ALL AREAS WITHIN THE RIGHT-OF-WAY ARE TO BE SEEDED AND MULCHED AS SOON AS THE WORK IN THAT AREA IS COMPLETE.

## ROADWAY NOTES

RDW1 ALL PAVEMENT SUB-GRADE SHALL BE CONSTRUCTED IN ACCORDANCE WITH ITEM 203 OF THE COC CMS. THE SOILS REPORT AND AS DIRECTED BY THE REGISTERED SOILS ENGINEER PRESENT ON THE SITE, THE CITY WILL STRICTLY ADHERE TO THE COMPACTION REQUIREMENTS SET FORTH IN SECTION 203.07. DENSITY TESTING MUST BE PERFORMED ON EACH LIFT OF FILL, AND THE SOILS ENGINEER PERFORMING THE TESTING MUST HAVE DETAILED LABORATORY TEST DATA ON SITE TO SUPPORT THE VALUES BEING UTILIZED IN THE DENSITY CALCULATIONS. THE MOISTURE CONTENT OF THE NEW FILL SHALL BE IN THE RANGE OF ± 2% OF THE OPTIMUM MOISTURE CONTENT DETERMINED BY ASTM D698. THE CITY INSPECTOR RESERVES THE RIGHT TO REQUIRE DENSITY TESTING OF SUB-GRADE IN NEWLY CUT AREAS WHERE TOPSOIL HAS BEEN STRIPPED IN PREPARATION FOR SUB-BASE INSTALLATION OR FILLING OPERATIONS. IN ORDER TO EVALUATE THE NECESSITY FOR ADDITIONAL COMPACTION EFFORT.

RDW2 ALL PAVEMENT JOINTS, PARTICULARLY WHERE A PROPOSED PAVEMENT ABUTS AN EXISTING PAVEMENT, AND ALL PAVEMENT JOINTS ABUTTING UTILITY STRUCTURES SUCH AS MANHOLES, CATCH BASINS, VALVE BOXES, ETC. SHALL BE SEALED IN ACCORDANCE WITH ITEM 413 TYPE (1) OF THE COC CMS.

RDW3 AT THE OPTION OF THE DEVELOPER OR THE CITY, THE PLACEMENT OF THE FINAL WEARING COURSE OF ITEM 448 ASPHALT CONCRETE MAY BE DELAYED UNTIL SUCH TIME THAT THE MAJORITY OF THE RESIDENTIAL HOUSING CONSTRUCTION IN THE AREA IS COMPLETE, OR WEATHER PERMITS.

RDW4 WEARING COURSE OF ASPHALT CONCRETE IS TO MEET COC CMS ITEM 448 AND ADDITIONAL MIX DESIGN REQUIREMENTS OF THE COD.

RDW5 PAVEMENT CUTS FOR UTILITY LINE INSTALLATIONS ARE SUBJECT TO THE BACKFILL REQUIREMENTS OF ITEM 912. IN LIEU OF COMPACTED GRANULAR MATERIAL, FLOWABLE CONTROLLED DENSITY FILL, ITEM 636 TYPE-11 MAY BE USED. PAVEMENT SHALL BE CONSTRUCTED TO MATCH THE EXISTING SECTION OR NINE INCHES OF ITEM 448 ASPHALT CONCRETE, WHICHEVER IS GREATER. AS AN OPTION, THE CONTRACTOR MAY CHOOSE TO INSTALL A 7" CLASS "C" CONCRETE BASE EXTENDING 1'-0" BEYOND EITHER EDGE OF THE EXCAVATION, WITH 2" OF ITEM 448 ASPHALT WEARING COURSE PLACED ON TOP.

RDW6 STEEL PLATES SHALL BE POSITIONED AND SECURED IN PLACE WITH STEEL SPIKES AND COOLD PATCH ASPHALT MIX OVER ALL TRENCHES THAT ARE LEFT OPEN ON A TEMPORARY BASIS AND SUBJECT TO TRAFFIC.

RDW7 CITY STREETS ARE TO BE KEPT CLEAN AND FREE FROM MUD, STONE, DIRT, ETC. A STABILIZED CONSTRUCTION ENTRANCE AS SPECIFIED IN THE PLANS IS TO BE DILIGENTLY MAINTAINED AT ALL SITE ENTRANCES THROUGHOUT THE DAY. PROACTIVE MEASURES MUST BE TAKEN TO RESTORE THESE ITEMS IF INCREMENT WEATHER IS FORECASTED. IF THE ENTRANCE IS RENDERED INEFFECTIVE BY THE ENGINEERING DEPARTMENT, THE PROJECT WILL BE SHUT DOWN UNTIL A WASH STATION IS IMPLEMENTED AND/OR THE ENTRANCE IS MADE EFFECTIVE.

RDW8 CONCRETE CURBS ARE TO BE BRANDED DURING PLACEMENT UTILIZING THE STANDARD BRAND SET PROVIDED BY THE COD ENGINEERING DEPARTMENT. BRAND CURBS ARE AS FOLLOWS:  
S – ON TOP OF CURB FOR SANITARY LATERAL LOCATIONS.  
W – ON FACE OF CURB FOR WATER SERVICE BOX LOCATIONS.  
WV – ON FACE OF CURB FOR HYDRANT WATCH VALVE LOCATIONS.  
WM – ON FACE OF CURB FOR WATER MAIN VALVE LOCATIONS.  
SM – ON FACE OF CURB FOR SANITARY STORM MANHOLE LOCATIONS.  
BRANDS THAT ARE MISSED MUST BE MECHANICALLY GROUND INTO THE CURB AFTER THE CONCRETE IS SET.

RDW9 THE COMBINATION CURB AND GUTTER SHALL BE PLACED CONTINUOUSLY. DRIVEWAY CURB CUTS SHALL BE SAW-CUT AT THE TIME EACH INDIVIDUAL RESIDENCE IS CONSTRUCTED.

RDW10 MONUMENT BOXES SHALL BE INSTALLED AT INTERSECTIONS DESIGNATED ON THE PLAN BY A REGISTERED SURVEYOR AT THE CONTRACTOR'S EXPENSE. BOXES SHALL BE NEENAH R-1986, TYPE 36-8 OR EAST JORDAN IRON WORKS NO. 0371. MONUMENTS ARE TO BE SET IN A CONCRETE FILLED 24" DIAMETER CORED HOLE, FLUSH WITH THE TOP OF THE PAVEMENT PER CITY STANDARD.

RDW11 ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE "OHIO MANUAL OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION AND MAINTENANCE OPERATIONS"; AVAILABLE FROM ODOT.

RDW12 LANE RESTRICTIONS OR CLOSURES REQUIRED DURING CONSTRUCTION MUST BE APPROVED BY THE COD ENGINEERING AND PUBLIC WORKS DEPARTMENTS A MINIMUM OF 2 WEEKS PRIOR TO ANY WORK BEING PERFORMED. OTHERWISE, TRAFFIC LANES SHALL BE FULLY OPEN TO TRAFFIC AT ALL TIMES AND INGRESS AND EGRESS SHALL BE MAINTAINED TO PUBLIC AND PRIVATE PROPERTY. A MAINTENANCE OF TRAFFIC PERMIT MUST BE OBTAINED PRIOR TO STARTING ANY WORK THAT EFFECTS CURRENT TRAFFIC FLOWS.

RDW13 TACK COAT (COC ITEM 407) IS REQUIRED BETWEEN ALL LIFTS OF FLEXIBLE PAVEMENT, BETWEEN CONCRETE BASE AND ASPHALT SURFACE COURSE, AND ALONG THE CURB. THE TACK COAT APPLICATION MAY BE WAIVED AT THE DISCRETION OF THE INSPECTOR IF THE LIFTS OF ASPHALT ARE LAIN DOWN WITHIN SEVEN (7) DAYS OF EACH OTHER, THERE HAS BEEN NO WATER OR VEHICLE TRAFFIC ON THE PAVEMENT AND THE PAVEMENT IS CLEAN AND FREE OF DUST AND DEBRIS.

RDW14 ALL SIGNS MUST MEET OMUTCD TABLE 2A-3 MINIMUM MAINTAINED RETRORREFLECTIVITY LEVELS.

## STORM SEWER NOTES

STM1 THE MINIMUM REQUIREMENTS FOR STORM SEWER PIPE WITHIN THE CITY RIGHT-OF-WAY OR ROADWAY EASEMENTS SHALL BE REINFORCED CONCRETE PIPE ASTM C855, ASTM C76, NON-REINFORCED CONCRETE PIPE ASTM C14 OR HDPE PIPE (ADS OR APPROVED EQUAL). ALL PIPE MANUFACTURERS MUST APPEAR ON THE COC APPROVED LIST OF STORM SEWER MANUFACTURERS.

STM2 FLEXIBLE STORM SEWERS WITHIN THE RIGHT-OF-WAY WILL BE MANDREL TESTED AND/OR VIDEO INSPECTED. TESTING SHALL BE PERFORMED NO SOONER THAN THIRTY DAYS AFTER THE PIPE TRENCH HAS BEEN BACKFILLED AND ALL ROADWAY AND SITE FILLS OVER THE STORM LINES HAVE BEEN CONSTRUCTED. MAXIMUM DEFLECTION SHALL NOT EXCEED 5% OF THE BASE INSIDE DIAMETER. TESTING WILL BE PERFORMED BY THE CONTRACTOR AND SHALL BE AT THE CONTRACTOR'S EXPENSE.

STM3 ALL FLEXIBLE PIPE INSTALLATIONS THAT ARE SUBJECT TO CONSTRUCTION LOADING SHALL MAINTAIN A MINIMUM COVER OF 2' AT ALL TIMES DURING THE CONSTRUCTION PROCESS.

STM4 HDPE PIPE JOINTS SHALL BE MADE USING WATERTIGHT COUPLERS WITH O RING GASKET ADS WT OR APPROVED EQUAL, WHERE RUBBER O RING GASKET (ASTM C361) PIPE IS REQUIRED ON THE

PLANS. ALL OTHER PIPE SHALL HAVE A BELL AND SPIGOT JOINT WITH RUBBER GASKET MEETING ASTM F447.

STM5 ALL STORM MANHOLES SHALL BE MARKED WITH A 4" x 4" x 10'-0" PRESSURE TREATED WOODEN POST PROJECTING 4'-0" ABOVE THE FINISH GRADE AND WITH THE TOP 1'-0" PAINTED GREEN ON 4 SIDES.

STM6 THE COST OF ANY DEWATERING OPERATIONS REQUIRED FOR THE CONSTRUCTION OF THE STORM SEWER SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS SEWER ITEMS.

STM7 THE COST OF ANY ROCK EXCAVATION SHALL BE INCLUDED IN THE PRICE BID FOR THE STORM SEWER. THE BIDDER SHALL DETERMINE IF ANY ROCK EXCAVATION WILL BE REQUIRED AND ADJUST HIS BIDS ACCORDINGLY.

STM8 THE FLOW IN ALL SEWERS, DRAINS AND WATERCOURSES ENCOUNTERED SHALL BE MAINTAINED BY THE CONTRACTOR AT HIS OWN EXPENSE, AND WHENEVER SUCH WATERCOURSES AND DRAINS ARE DISTURBED OR DESTROYED DURING THE EXECUTION OF THE WORK, THEY SHALL BE RESTORED BY THE CONTRACTOR AT HIS OWN EXPENSE TO A CONDITION SATISFACTORY TO THE ENGINEER.

STM9 ALL MAJOR FLOOD ROUTES AND DETENTION BASINS ARE TO BE SURVEYED BY A REGISTERED SURVEYOR TO VERIFY CONFORMANCE TO THE APPROVED GRADING PLAN. COST OF THIS WORK SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

STM10 THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER INSTALLATION (PRIOR TO THE START OF CONSTRUCTION), MAINTENANCE, AND REPLACEMENT OF SEDIMENT AND EROSION CONTROL MEASURES PER THE APPROVED SWPPP. THE CONTRACTOR WILL BE RESPONSIBLE FOR PAYING ANY FINE LEVIED BY THE OEPA RESULTING FROM FAILURE TO ADHERE TO THE SWPPP AND/OR THE REQUIREMENTS OF THE OEPA APPLICABLE PERMITS.

STM11 ALL DRAINAGE FLOOD ROUTES, SWALES, AND DITCHES ARE TO BE DESIGNED AND GRADED WITH A MINIMUM FLOW LINE GRADE OF 2%, AND A MAXIMUM SIDE SLOPE OF 4:1.

STM11 ALL CATCH BASINS, MANHOLES, AND CURB INLETS SHALL HAVE CONCRETE CHANNELS POURED IN PLACE TO ASSURE POSITIVE DRAINAGE THROUGH THESE STRUCTURES.

STM12 PUBLIC STORM SEWER MANHOLE LIDS ARE TO BE EAST JORDAN IRON WORKS NO. 1661-A1 OR EQUIVALENT AND EMBOSSED "CITY OF DELAWARE STORM SEWER".

STM13 STORM SEWER CURB INLETS ARE TO BE ADJUSTED WITHIN 1/4" OF PLAN ELEVATION USING STEEL SHIMS.

STM14 PRE-CAST RINGS ARE TO BE USED FOR ALL FINAL ADJUSTMENTS OF MANHOLE CASTINGS. STORM MANHOLE TOP OF CASTINGS SHOULD BE SET AT 1-1/2" ABOVE FINISHED GRADE.

STM15 OPENINGS SHALL BE PROVIDED IN DRAINAGE STRUCTURES TO ACCOMMODATE UNDERDRAIN OUTLETS. UNDERDRAINS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH DETAILS GIVEN IN THE PLANS.

## WATER LINE NOTES

WTR1 ALL WATER PIPE AND FITTINGS, AND METHODS OF CONSTRUCTION AND WORKMANSHIP FOR WATER LINES AND APPURTENANCES SHOWN ON THESE PLANS SHALL CONFORM TO THE RULES AND REGULATIONS OF THE COD, CURRENT ON THE DATE OF CONTRACT FOR CAPITAL PROJECTS OR DATE OF PRE-CONSTRUCTION MEETING FOR PRIVATE DEVELOPER PROJECTS, UNLESS THE REQUIREMENTS OF SUCH RULES AND REGULATIONS ARE UPGRADED BY THE FOLLOWING NOTES.

WTR2 ANY ACTIVITY RELATED TO THE USAGE OF THE PUBLIC WATER SYSTEM MUST HAVE PRE-APPROVAL OF THE ENGINEERING AND WATER DEPARTMENTS. WORK REQUIRING THE SHUTDOWN OF EXISTING WATER MAINS IS TO BE COORDINATED WITH THESE TWO DEPARTMENTS FORTY-EIGHT HOURS PRIOR TO THE SCHEDULED WORK BEING PERFORMED. ALL EFFECTED CUSTOMERS SHALL BE NOTIFIED, IN WRITING, BY THE CONTRACTOR AT LEAST TWENTY-FOUR HOURS PRIOR TO SHUT DOWN.

WTR3 WATER MAINS SHALL BE DUCTILE IRON PIPE, CLASS 53 (AWWA C151) WITH CEMENT MORTAR LINING AND SEAL COATING (AWWAC 104) IN ACCORDANCE WITH CITY SPECIFICATIONS. JOINTS SHALL BE RUBBER GASKET PUSH-ON MECHANICAL (AWWA C111). WATER MAIN FITTINGS SHALL BE DUCTILE IRON WITH CEMENT MORTAR LINING AND SEAL COATING WITH MECHANICAL JOINTS AND SHALL CONFORM TO AWWA C115.

WTR4 ALL PIPING 2" OR LESS IN DIAMETER BETWEEN THE WATER MAIN AND THE CONTROL VALVE OR METER PIT SHALL BE TYPE K, SOFT TEMPERED COPPER TUBING CONFORMING IN ALL RESPECTS TO ASTM 818. FITTINGS SHALL BE FORD METER BOX OR MUELLER HIGH QUALITY COPPER BRASS WITH AWWA APPROVED COMPRESSION TYPE JOINTS. IN GENERAL, THERE WILL BE NO FITTINGS PERMITTED BETWEEN THE WATER MAIN CONNECTION AND THE CONTROL VALVE.

WTR5 DEAD-END WATER LINES SHALL TERMINATE WITH A FIRE HYDRANT AND WATCH VALVE FOLLOWED BY A MAIN LINE VALVE AND AN ADDITIONAL SECTION OF WATER LINE PLUGGED AND BLOCKED PER THE STANDARD DRAWINGS.

WTR6 WATER LINES SHALL BE INSTALLED WITH A MINIMUM OF 4'-0" OF COVER MEASURED FROM THE FINISHED GRADE TO THE TOP OF THE WATER MAIN. ALL INSTANCES OF DEEPER INSTALLATION SHALL BE BROUGHT TO THE ATTENTION OF THE COD INSPECTOR AND CITY ENGINEER IMMEDIATELY FOR REVIEW AND APPROVAL.

WTR7 ALL MAIN LINE VALVES, HYDRANT WATCH VALVES, CURB BOXES, AND DEAD END LINES ARE TO BE MARKED WITH A 4" x 4" x 10'-0" POST WITH 4'-0" PROJECTING ABOVE THE FINISHED GRADE AND THE TOP 1'-0" PAINTED BLUE ON 4 SIDES. POSTS ARE TO BE MAINTAINED UNTIL THE AREA IS HAS UNDERGONE FINAL GRADING.

WTR8 IF THERE ARE ANY CONFLICTS IN GRADE BETWEEN WATER LINE AND GRAVITY SEWERS, THE WATER LINES SHALL BE LOWERED DURING CONSTRUCTION.

WTR9 THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE HORIZONTAL AND VERTICAL DEFLECTIONS OR BEND IN THE WATER LINE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. DEFLECT WATER LINES TO PROVIDE 1'-6" VERTICAL AND 10'-0" HORIZONTAL CLEARANCE FROM SANITARY SEWERS AND STORM SEWERS.

WTR10 A PERMIT FOR EACH WATER SERVICE MUST BE OBTAINED FROM THE COD PRIOR TO MAKING A CONNECTION TO THE WATER SERVICE INSTALLED AS PART OF THIS PROJECT AND PRIOR TO MAKING ANY ADDITIONAL TAPS INTO PUBLIC WATER LINES. PERMIT APPLICATIONS CAN BE OBTAINED FROM CITY HALL AT 1 SOUTH SANDUSKY STREET.

WTR11 THE WATER SERVICE TAPS SHALL CONSIST OF ALL PIPE, VALVES, FITTINGS, AND APPURTENANCES NECESSARY TO CONNECT TO THE PUBLIC WATER MAIN AND COMPLETE THE INSTALLATION ACCORDING TO THE STANDARDS SET FORTH IN THIS PLAN.

WTR12 THE CAPS AND INSIDE OF ALL MAINLINE WATER VALVE BOXES SHALL BE PAINTED BLUE, AND THE CAPS AND INSIDE OF ALL FIRE HYDRANT GATE VALVE BOXES SHALL BE PAINTED RED WITH 2 COATS OF RUST INHIBITIVE PAINT. PUBLIC FIRE HYDRANTS ARE TO BE PAINTED WITH 2 COATS OF FEDERAL SAFETY YELLOW, SHERWIN WILLIAMS 884Y37 PER COD 1507.08(A)(1). PRIVATE FIRE HYDRANTS ARE TO BE PAINTED FEDERAL SAFETY RED AND WHITE CAPS AND BONNETS PER COD 1507.14(B)(4). HYDRANTS THAT ARE PART OF AN INDUSTRIAL LOOPED SYSTEM (SERVED BY A PUMPING STATION) SHALL BE PAINTED ALL FEDERAL SAFETY RED.

WTR13 ALL MECHANICAL FASTENERS, BOLTS, ALL THREAD ROD, ETC. ARE TO RECEIVE ONE COAT OF RUST INHIBITIVE PAINT OR COATING.

WTR14 IF THE TOP OF THE OPERATING NUT IS MORE THAN 36" INCHES BELOW FINISHED GRADE, AN EXTENSION STEM SHALL BE FURNISHED TO BRING THE TOP OF THE OPERATING NUT TO WITHIN 24" OF FINISHED GRADE ELEVATION. ALL VALVE STEM EXTENSIONS ARE TO BE INSTALLED WITH THE EXTENSION SECURED DIRECTLY TO THE VALVE OPERATING NUT WITH GALVANIZED RESTRAINT CLIPS.

WTR15 THE COST OF ANY DEWATERING OPERATIONS REQUIRED FOR THE CONSTRUCTION OF THE WATER LINE SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS.

WTR16 ALL FITTINGS SHALL BE ADEQUATELY RESTRAINED WITH CONCRETE BLOCKING PER THE COD STANDARD DRAWINGS. ALL FITTINGS TO BE BACKED MUST BE THOROUGHLY WRAPPED IN PLASTIC SHEETING PRIOR TO PLACING CONCRETE.

WTR17 FIRE HYDRANTS SHALL MEET AWWA STANDARDS AND ARE TO BE MUELLER "SUPER

CENTURION 250" A-423 ON TYPE "A" SETTING WITH WATCH VALVE DIRECTLY MOUNTED TO ANCHOR TEE. TYPE "B" SETTINGS SHALL NOT BE USED UNLESS APPROVED BY THE CITY ENGINEER. ALL PIPING BETWEEN THE WATCH VALVE AND HYDRANT SHALL BE MECHANICAL JOINT FITTINGS. THE CONNECTION TO THE HYDRANT SHALL BE A 5" STORTZ FITTING WITH A QUICK RELEASE LOCKING COUPLING. ALL SAFETY CHAINS ARE TO BE REMOVED FROM HYDRANTS.

WTR18 ALL FIRE DEPARTMENT CONNECTIONS (STANDPIPES) SHALL HAVE A 45' DOWNTURN FITTING TO REDUCE KICKING IN THE FIRE HOSE. THE CONNECTION TO THE STANDPIPE SHALL BE A 5" STORTZ FITTING WITH A LOCKING COUPLING.

WTR19 ALL NEW MAIN LINE AND HYDRANT WATCH VALVES ARE TO BE DIRECTLY ANCHORED TO THE TEE AND BE ANCHOR TYPE FITTINGS.

WTR20 3/2" AND 1" WATER TAPS SHALL BE DIRECT TAP ONLY. NO DIRECT TAPS SHALL BE MADE TO ANY ASBESTOS MAINS. 1 1/2" AND 2" WATER TAPS SHALL BE DONE WITH A FORD STYLE FC-202, 3" AND 4" WATER TAPS SHALL BE DONE WITH A FORD STYLE FS-202. 6" WATER TAPS AND LARGER SHALL BE PERFORMED WITH A FORD FTSS TAPPING SLEEVE. A JCM 432 IS AN APPROVED EQUAL.

WTR21 ALL GATE VALVES SHALL BE DUCTILE IRON RESILIENT WEDGE 250 PSI AS MANUFACTURED BY AMERICAN FLOW CONTROL OR APPROVED EQUIVALENT WHICH MEETS OR EXCEEDS THE REQUIREMENTS OF ANSI/AWWA C509.

WTR22 VALVE BOXES ARE TO BE TYLER 8650 SERIES CAST IRON 2-PIECE SCREW TYPE FOR MAIN AND WATCH VALVES AND TYLER 6500 SERIES CAST IRON 2-PIECE SCREW TYPE SERVICE BOXES FOR CURB VALVES.

WTR23 FOR WATER SERVICE TAPS, THE WATER MAIN CONNECTION SHALL BE MADE USING A MUELLER 300 BALL TYPE B-25008 OR FORD FB1000-Q BALLCORP CORPORATION STOPS. CONTROL VALVES SHALL BE MUELLER 300 BALL CURB VALVE B-25209 OR FORD B44-Q BALL VALVE CURB STOPS (QUARTER TURN ONLY).

WTR24 WATER SERVICE BOXES ARE TO BE LOCATED IN PAIRS ALONG PROPERTY LINES, 8'-0" APART AND 2'-0" OUTSIDE OF THE RIGHT-OF-WAY LINE. A MINIMUM DEPTH OF 48" BELOW TOP OF CURB MUST BE MAINTAINED FOR ALL WATER SERVICES IN THE RIGHT-OF-WAY.

WTR25 ALL WATER LINES SHALL BE TESTED (AWWA 600) AND STERILIZED (AWWA C651) BY THE CONTRACTOR IN ACCORDANCE WITH THE COD AND AWWA SPECIFICATIONS. TESTING SHALL BE DONE UNDER THE SUPERVISION OF THE CITY ENGINEER OR HIS AUTHORIZED REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.

WTR26 WATER DISTRIBUTION SYSTEM IMPROVEMENTS SHALL BE DESIGNED SUCH THAT THE WORKING PRESSURE SHOULD NOT BE LESS THAN 35 PSI DURING PEAK FLOW CONDITIONS, OR MINIMUM OF 20 PSI DURING PEAK FLOW PLUS FIRE FLOW CONDITIONS. INDIVIDUAL BOOSTER PUMPS FOR THE PURPOSE OF RAISING SUPPLY LINE PRESSURE SHALL NOT BE PERMITTED FOR RESIDENTIAL SERVICES.

WTR27 ALL METERS (OTHER THAN STANDARD 5/8" X 3/4" RESIDENTIAL, METER) AND ALL BACKFLOW DEVICES SPECIFIED FOR THIS PROJECT MUST BE DELIVERED TO THE COD WATER TREATMENT PLANT FOR INSPECTIONS AND APPROVAL PRIOR TO INSTALLATION.

WTR28 THE METER PIT, INCLUDING ALL PIPING, FITTINGS, EQUIPMENT, AND APPURTENANCES, MUST BE APPROVED BY THE COD THROUGH A SCHEDULED FIELD INSPECTION DURING THE INSTALLATION. METER PITS UNABLE TO BE PROVIDED WITH A GRAVITY DRAIN MUST BE EQUIPPED WITH A SUMP PUMP. SUMP CROCKS ARE NOT ALLOWED IN THE BASE OF THE METER PIT.

WTR29 THE PRESSURE REQUIRED TO PERFORM HYDROSTATIC TESTING ON WATER LINES MUST BE 150 PSI FOR DOMESTIC LINES AND 200 PSI FOR FIRE SUPPRESSION LINES (PER NFPA 13).

WTR30 THE DEPARTMENT OF PUBLIC UTILITIES IS RESPONSIBLE FOR INSPECTING THE DOMESTIC WATER METER PIT, DOMESTIC WATER LINE, AND ASSOCIATED APPURTENANCES. THE DEPARTMENT OF PLANNING AND CONSTRUCTION MEETING FOR PRIVATE DEVELOPER PROJECTS, UNLESS THE REQUIREMENTS OF SUCH RULES AND REGULATIONS ARE UPGRADED BY THE FOLLOWING NOTES.  
WTR31 THURST BLOCKS FOR THE FIRE LINE, METER PIT-FIRE LINE CONNECTION, FIRE DEPARTMENT CONNECTION, AND VALVE MONITORING, PRIOR TO BURYING THE WATER SERVICE, THE APPROPRIATE DEPARTMENT REPRESENTATIVE SHALL INSPECT EACH PORTION OF THE SERVICE. FAILURE TO HAVING THIS INSPECTION PERFORMED BY THE APPROPRIATE DEPARTMENT WILL RESULT IN HAVING TO UNCOVER THE SERVICE AT THE CONTRACTOR'S EXPENSE.

## SANITARY SEWER NOTES

SAS1 THE CONTRACTOR'S SPECIFIC ATTENTION IS DIRECTED TO THE REQUIREMENTS OF EITHER THE INFILTRATION OR EXFILTRATION AS SPECIFIED BY THE COC CMS SECTION 900. ALL SANITARY SEWERS, MANHOLES AND SERVICES SHALL BE TESTED. ALL SANITARY SEWERS SHALL BE SUBJECT TO AND PASS THE INFILTRATION OR EXFILTRATION TEST PRIOR TO ACCEPTANCE, INCLUDING VACUUM TESTING OF MANHOLES, AN AIR TEST IS ACCEPTABLE TO THE COD. THIS AIR TEST SHALL BE PERFORMED ACCORDING TO THE CURRENT REGULATIONS OF THE CITY'S ENGINEERING DEPARTMENT.

SAS2 CLEAN WATER CONNECTIONS INCLUDING ROOF DRAINS, FOUNDATION DRAINS, SUMPS, ETC. ARE PROHIBITED FROM BEING CONNECTED TO THE SANITARY SEWER.

SAS3 THE MINIMUM REQUIREMENT FOR SEWER PIPE ON THIS PROJECT SHALL BE EXTRA STRENGTH VITRIFIED CLAY C-700 WITH ASTM C425 COMPRESSION JOINTS, OR SDR 35 (SDR-26 IF DEPTH EXCEEDS 20'), ASTM D3034 POLYVINYL CHLORIDE (PVC) SEWER PIPE WITH ASTM C1784 CELL CLASSIFICATION OF 12454 B OR 12454 C, ASTM F679 PVC SEWER PIPE ASTM CELL CLASSIFICATION 12454, OR CORRUM ASTM D3822-TYPE 1, LNER 2, GRADE 3, STIFFNESS 72 PSI, UNLESS OTHERWISE SHOWN ON THE PLANS. PIPE MANUFACTURERS ON THAT LIST ARE APPROVABLE BY COD.

SAS4 PIPE FOR ALL 6" SERVICES SHALL BE PVC SEWER PIPE ASTM D-3034, SDR-35 (OR SDR-26 IF DEPTH EXCEEDS 20'). THE SERVICES ARE SUBJECT TO EITHER THE INFILTRATION OR EXFILTRATION TESTING REQUIREMENTS. ALL SERVICE EXTENSIONS SHALL BE INSTALLED AT A MINIMUM GRADE OF 1/2" PER FOOT AND SHALL BE CONSTRUCTED AT THE TIME OF CONSTRUCTION OF THE MAIN SEWER, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

SAS5 ALL PVC PIPE SHALL BE DEFLECTION TESTED THIRTY DAYS OR MORE AFTER THE TRENCH HAS BEEN BACKFILLED TO FINISHED GRADE. A RIGID MANDREL SHALL BE USED FOR THE TESTING. NO MECHANICAL PULLING DEVICES SHALL BE USED. PIPE DEFLECTION SHALL NOT EXCEED FIVE 5%.

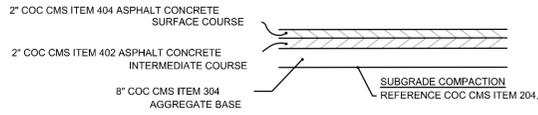
SAS6 6'-0" LONG CLAY DAMS ARE TO BE INSTALLED ALONG MAIN LINE SEWERS AT HALF THE DISTANCE BETWEEN EACH PAIR OF MANHOLES, BUT NO CLOSER THAN 10'-0" FROM A LATERAL SERVICE. COST TO BE INCLUDED WITH VARIOUS SEWER ITEMS.

SAS7 6'-0" LONG CLAY DAMS ARE TO BE INSTALLED ON ALL SANITARY LATERAL SEWERS BUT NO CLOSER THAN 5'-0" FROM THE END OF THE SERVICE. DAMS ARE TO BE INSTALLED BY SITE UTILITY CONTRACTOR WITH THE COST TO BE INCLUDED WITH VARIOUS SEWER ITEMS.

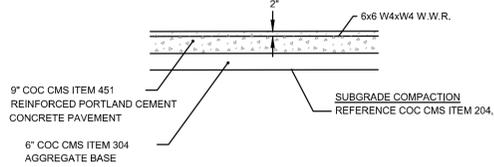
SAS8 PUBLIC SANITARY MANHOLE COVERS ARE TO BE EAST JORDAN IRON WORKS NO. 1661-A2 OR EQUIVALENT AND EMBOSSED "CITY OF DELAWARE SANITARY SEWER".

SAS9 ALL SANITARY MANHOLES AND LATERAL SERVICES ARE TO BE MARKED WITH A 4"x4"x10'-0" PRESSURE TREATED WOOD POST WITH 4'-0" PROJECTING ABOVE THE FINISHED GRADE AND WITH THE TOP 1'-0" PAINTED GREEN ON 4 SIDES. ADDITIONALLY A 2"x2" HARDWOOD WYE POLE IS TO BE WIRED TO THE BASE OF EACH 4"x4" POLE AND EXTENDED DOWN TO THE END OF EACH LATERAL SERVICE. COST TO BE INCLUDED IN THE VARIOUS ITEMS.

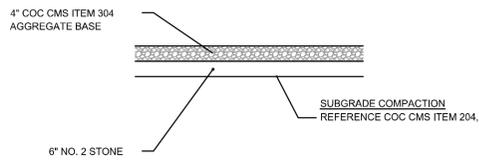
SAS10



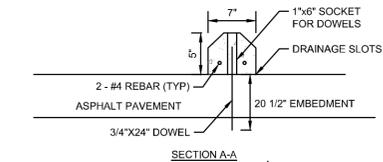
1  
C101 HEAVY DUTY ASPHALT PAVEMENT  
N.T.S.



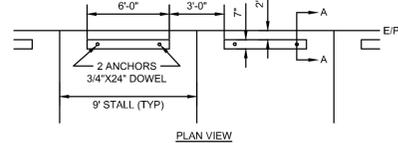
2  
C101 HEAVY DUTY CONCRETE  
N.T.S.



3  
C101 GRAVEL FIRE LANE  
N.T.S.

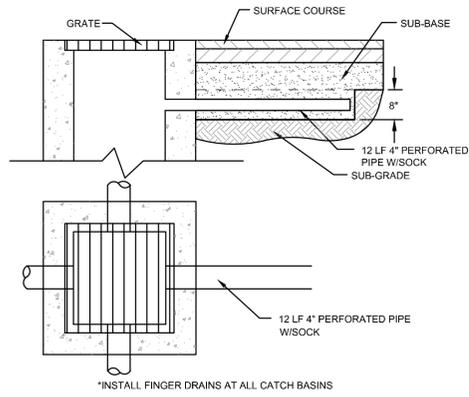


SECTION A-A

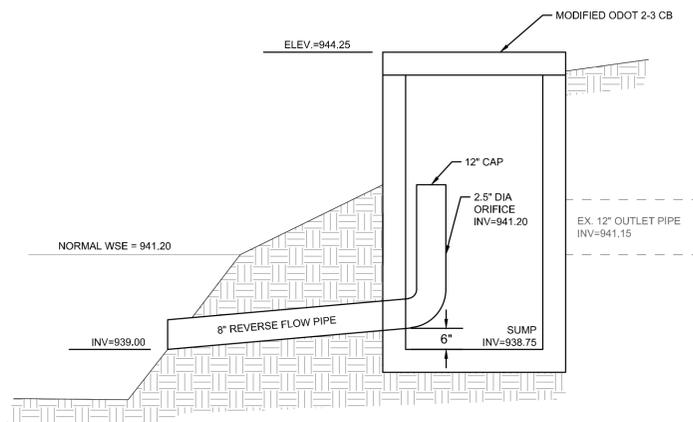


PLAN VIEW

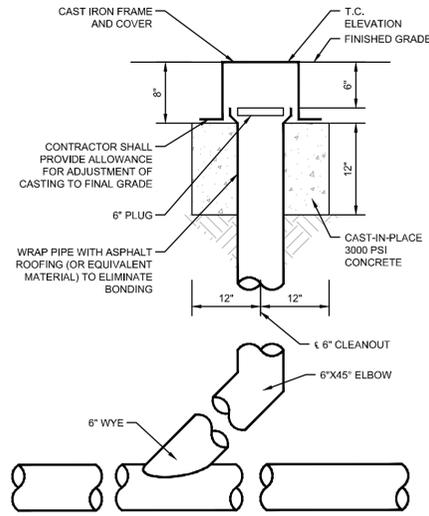
4  
C101 PRECAST CONCRETE WHEEL STOP DETAIL  
N.T.S.



5  
C101 FINGER DRAIN DETAIL  
N.T.S.



6  
C101 DETENTION / WATER QUALITY OUTFALL STRUCTURE  
N.T.S.

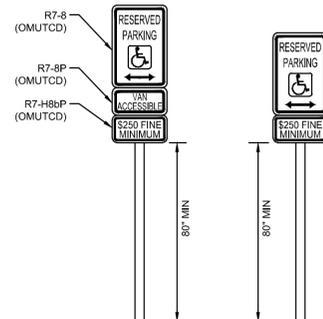


7  
C101 CLEANOUT DETAIL  
N.T.S.

**ESTIMATE OF QUANTITIES**

THE CONTRACTOR IS DIRECTED TO VERIFY ALL QUANTITIES PRIOR TO PREPARING AND SUBMITTING HIS BID. ANY ITEMS OF WORK CALLED FOR ON THE PLANS FOR WHICH NO SPECIFIC METHOD OF PAYMENT IS INDICATED SHALL BE PERFORMED BY THE CONTRACTOR AND THE COST OF SUCH WORK BE INCLUDED IN THE UNIT PRICE BID FOR VARIOUS ITEMS.

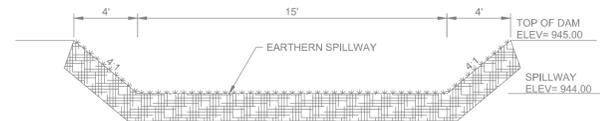
ITEM	QUANTITY	UNIT	DESCRIPTION
201	1	LUMP	CLEARING AND GRUBBING
202	35	LF	12" PIPE REMOVED
202	2	EA	REMOVE STORM STRUCTURE
207	8	EA	DANDY BAG INLET PROTECTION
207	660	LF	SILT FENCE
207	1	EA	CONCRETE WASHOUT AREA
604	5	EA	CATCH BASIN (ODOT 2-3)
604	2	EA	CLEANOUT (AA-S161)
901	96	LF	12" STORM SEWER PIPE, WITH TYPE 1 BEDDING
901	39	LF	8" STORM SEWER PIPE, WITH TYPE 1 BEDDING
901	109	LF	19"x30" ELLIPTICAL STORM SEWER PIPE, WITH TYPE 1 BEDDING



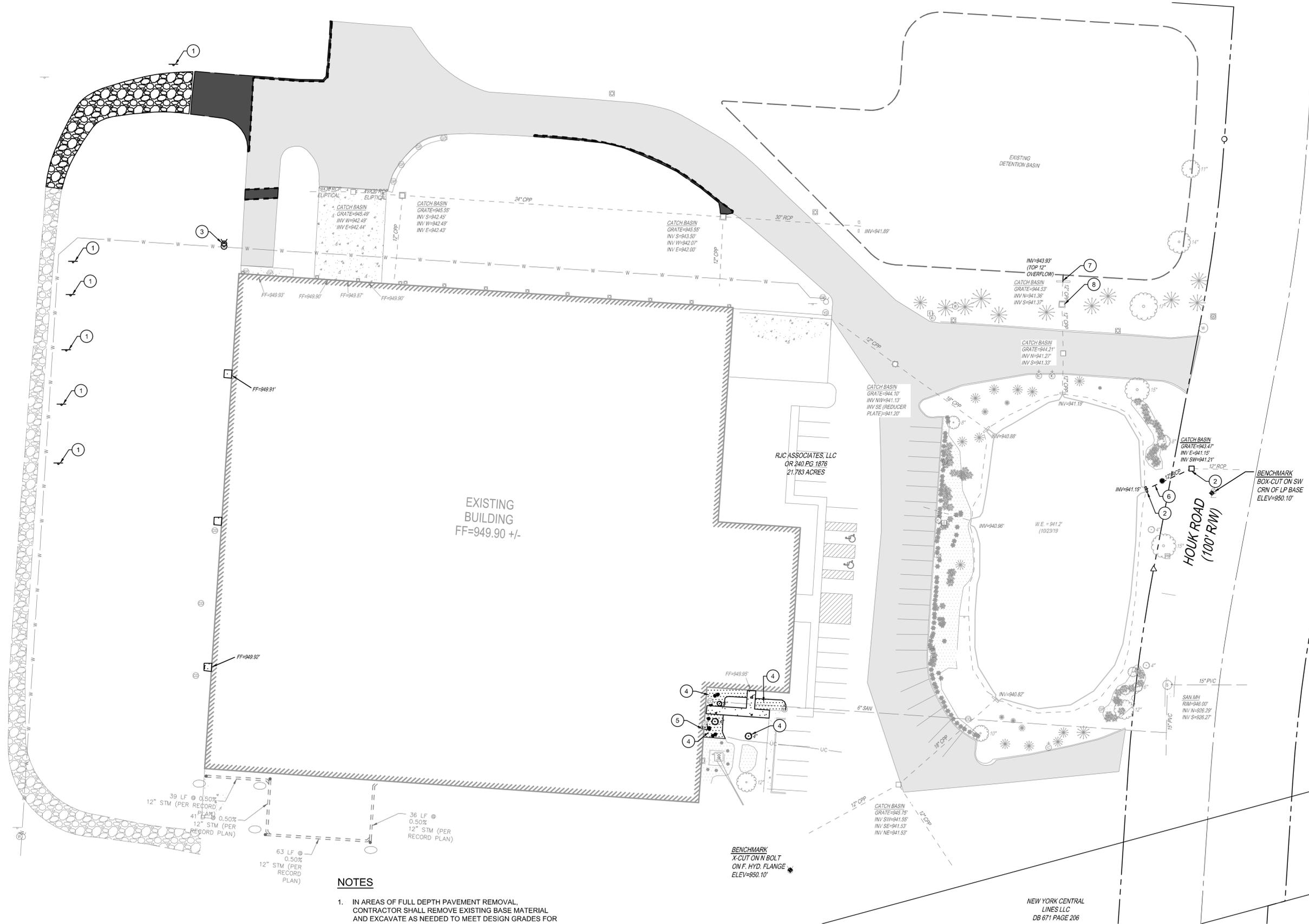
- GENERAL NOTES:
- U-TYPE FLANGED STEEL SIGN POST SET IN EARTH IF OUTSIDE PAVEMENT EDGE, OR IN CONCRETE TO A MINIMUM DEPTH OF 3'-0" IF WITHIN PAVEMENT.
- R7-8 NOTES:
- 12"x18"x16 GA. STEEL SIGN
  - GREEN LETTERING, BORDER, AND ARROW WITH WHITE BACKGROUND. WHITE HANDICAP SYMBOL IN BLUE BOX.
- R7-8P NOTES:
- 12"x6"x16 GA. STEEL SIGN
  - GREEN LETTERING AND BORDER WITH WHITE BACKGROUND.
- R7-H8BP NOTES:
- 12"x6"x16 GA. STEEL SIGN.
  - GREEN LETTERING AND BORDER WITH WHITE BACKGROUND.

- NOTE:
- ONE ACCESSIBLE PARKING SPACE FOR EVERY SIX OR FRACTION THERE OF SHALL BE DESIGNATED AS "VAN ACCESSIBLE". LOCATION AS NOTED ON THE DRAWINGS.
  - ONE SIGN TO BE INSTALLED AT EACH ACCESSIBLE PARKING SPACE

8  
C101 ACCESSIBLE PARKING SIGN DETAIL  
N.T.S.



9  
C101 EXISTING EMERGENCY SPILLWAY DETAIL  
N.T.S.



**NOTES**

1. IN AREAS OF FULL DEPTH PAVEMENT REMOVAL, CONTRACTOR SHALL REMOVE EXISTING BASE MATERIAL AND EXCAVATE AS NEEDED TO MEET DESIGN GRADES FOR PROPOSED PAVEMENT SECTION.
2. CRACK SEAL ALL SAWCUT ASPHALT PAVEMENT WITH COC ITEM 423, TYPE 1.
3. THE CONTRACTOR SHALL SAWCUT EXISTING PAVEMENT TO PROVIDE A SMOOTH VERTICAL FULL DEPTH BUTT JOINT BETWEEN THE EXISTING PAVEMENT OR CURB AND THE PROPOSED PAVEMENT. CONTRACTOR SHALL LOCATE SOUND PAVEMENT EDGE AND CUT AND TRIM PAVEMENT TO A NEAT LINE.

**DEMOLITION LEGEND**

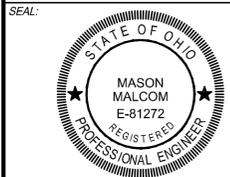
- REMOVE ASPHALT
- REMOVE CONCRETE
- REMOVE GRAVEL
- SAWCUT

**DEMOLITION KEYNOTES**

- ① RELOCATE SIGN
- ② REMOVE STORM STRUCTURE
- ③ RELOCATE FIRE HYDRANT AND WATER VALVE AS SHOWN ON SHEET C300.
- ④ REMOVE LANDSCAPING BED, BUSHES, AND SHRUBS IN VICINITY OF PROPOSED BUILDING ADDITION SHOWN ON SHEET C300.
- ⑤ REMOVE ELECTRICAL BOX TO AVOID CONFLICT WITH PROPOSED BUILDING ADDITION SHOWN ON SHEET C300.
- ⑥ REMOVE STORM PIPE
- ⑦ REMOVE 12" STORM RISER TO HEADWALL
- ⑧ CONTRACTOR TO RAISE CATCH BASIN ELEVATION AS SHOWN ON SHEET C500.



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 614.882.4311



NO. DATE DESCRIPTION

**CHARTER NEX  
2 BAY ADDITION**  
 1188 SOUTH HOUK ROAD  
 DELAWARE, OHIO

PROJECT NO: 100276.003

DATE: 2019-12-04

SCALE:

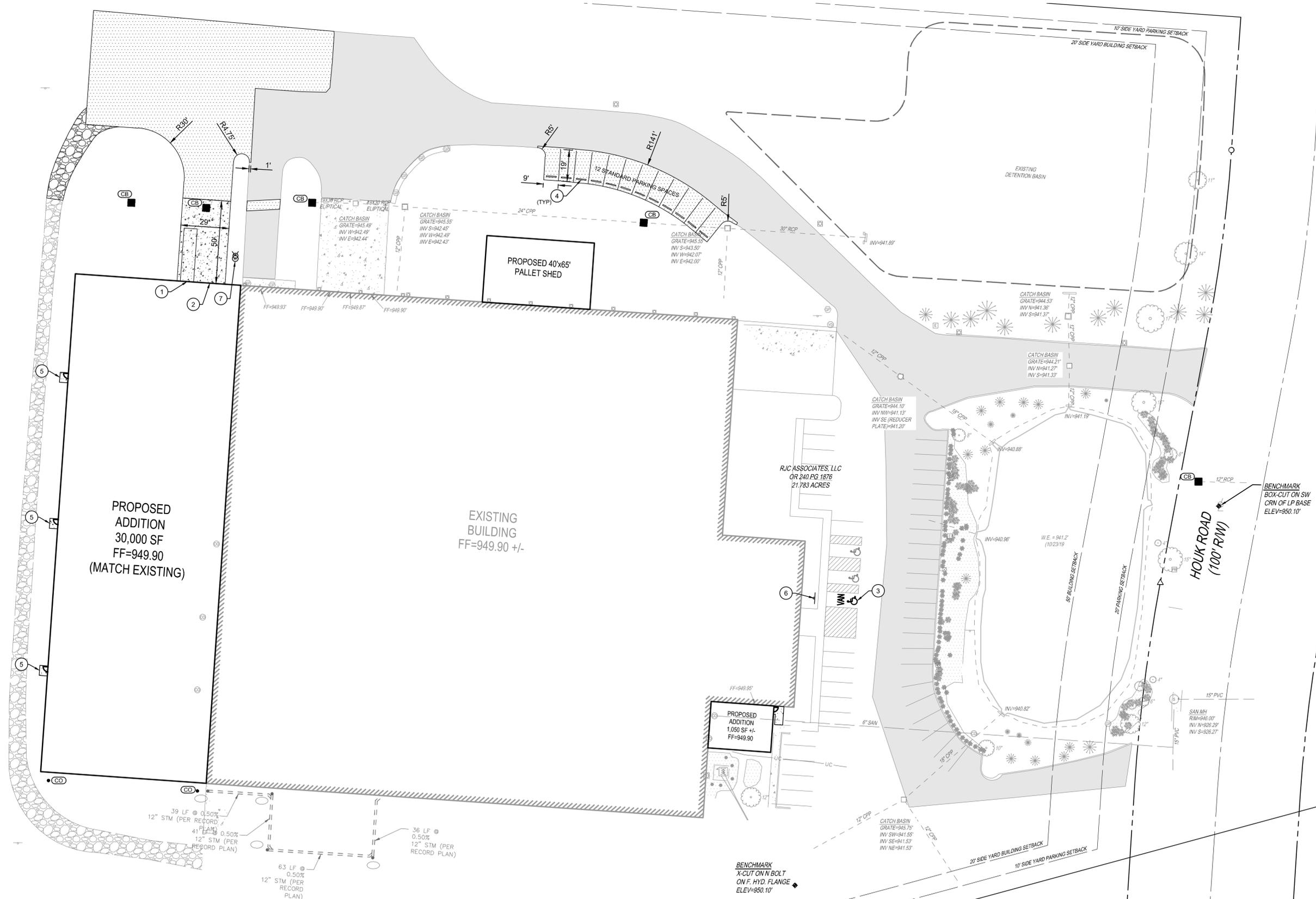


SHEET NAME:

**DEMOLITION PLAN**

SHEET NO:

**C200**



PROPOSED ADDITION  
 30,000 SF  
 FF=949.90  
 (MATCH EXISTING)

EXISTING BUILDING  
 FF=949.90 +/-

PROPOSED 40'x65'  
 PALLET SHED

RJC ASSOCIATES, LLC  
 OR 240 PG 1876  
 21.783 ACRES

BENCHMARK  
 BOX-CUT ON SW  
 CORN OF LP BASE  
 ELEV=950.10'

PROPOSED ADDITION  
 1,050 SF +/-  
 FF=949.90

BENCHMARK  
 X-CUT ON N BOLT  
 ON F. HYD. FLANGE  
 ELEV=950.10'

**NOTES**

- ALL DIMENSIONS ARE TO THE EDGE OF PAVEMENT AND/OR FACE OF CURB, UNLESS OTHERWISE NOTED.

**LOCATION PLAN LEGEND**

- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE
- PROPOSED GRAVEL
- EXISTING ASPHALT
- EXISTING CONCRETE

- PROPOSED CATCH BASIN
- PROPOSED CLEANOUT

**LOCATION KEYNOTES**

- TRASH COMPACTOR
- PROPOSED TRUCK DOCKS
- PROPOSED VAN ADA PAVEMENT MARKING
- PRECAST CONCRETE WHEEL STOP (SEE DETAIL 4/C101)
- 5'x5' CONCRETE STOOP. SEE ARCH PLANS.
- PROPOSED ADA SIGN (SEE DETAIL 8/C101)
- RELOCATED FIRE HYDRANT AND WATER VALVE.

**PARKING COUNT**

EXISTING STANDARD SPACES	41
PROPOSED STANDARD SPACES	12
TOTAL PROVIDED STANDARD SPACES	53
EXISTING ADA SPACES	2
PROPOSED ADA SPACES	1
TOTAL PROVIDED ADA SPACES	3

EXISTING OFFICE AREA:	5,911 SF
NEW OFFICE AREA:	1,067 SF
PARKING REQUIREMENT:	1 SPACE PER 300 SF
OFFICE USE REQUIRED SPACES =	(5,911 + 1,067) / 300 = 24 SPACES
EXISTING WAREHOUSE AREA:	46,725 SF
NEW WAREHOUSE AREA:	12,986 SF
PARKING REQUIREMENT:	1 SPACE PER 1000 SF
WAREHOUSE USE REQUIRED SPACES =	(46,725 + 12,986) / 1000 = 60 SPACES
EXISTING MANUFACTURING AREA:	45,397 SF
NEW MANUFACTURING AREA:	14,424 SF
PARKING REQUIREMENT:	1 SPACE PER 400 SF PLUS 1 SPACE FOR EACH VEHICLE USED IN THE BUSINESS AND BASED UPON THE PREMISES.
MANUFACTURING USE REQUIRED SPACES =	(45,397 + 14,424) / 400 = 150 SPACES
<b>TOTAL REQUIRED SPACES =</b>	<b>24 + 60 + 150 = 234 SPACES</b>



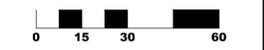
NO.	DATE	DESCRIPTION

**CHARTER NEX  
 2 BAY ADDITION**  
 1188 SOUTH HOUK ROAD  
 DELAWARE, OHIO

PROJECT NO: 100276.003

DATE: 2019-12-04

SCALE:

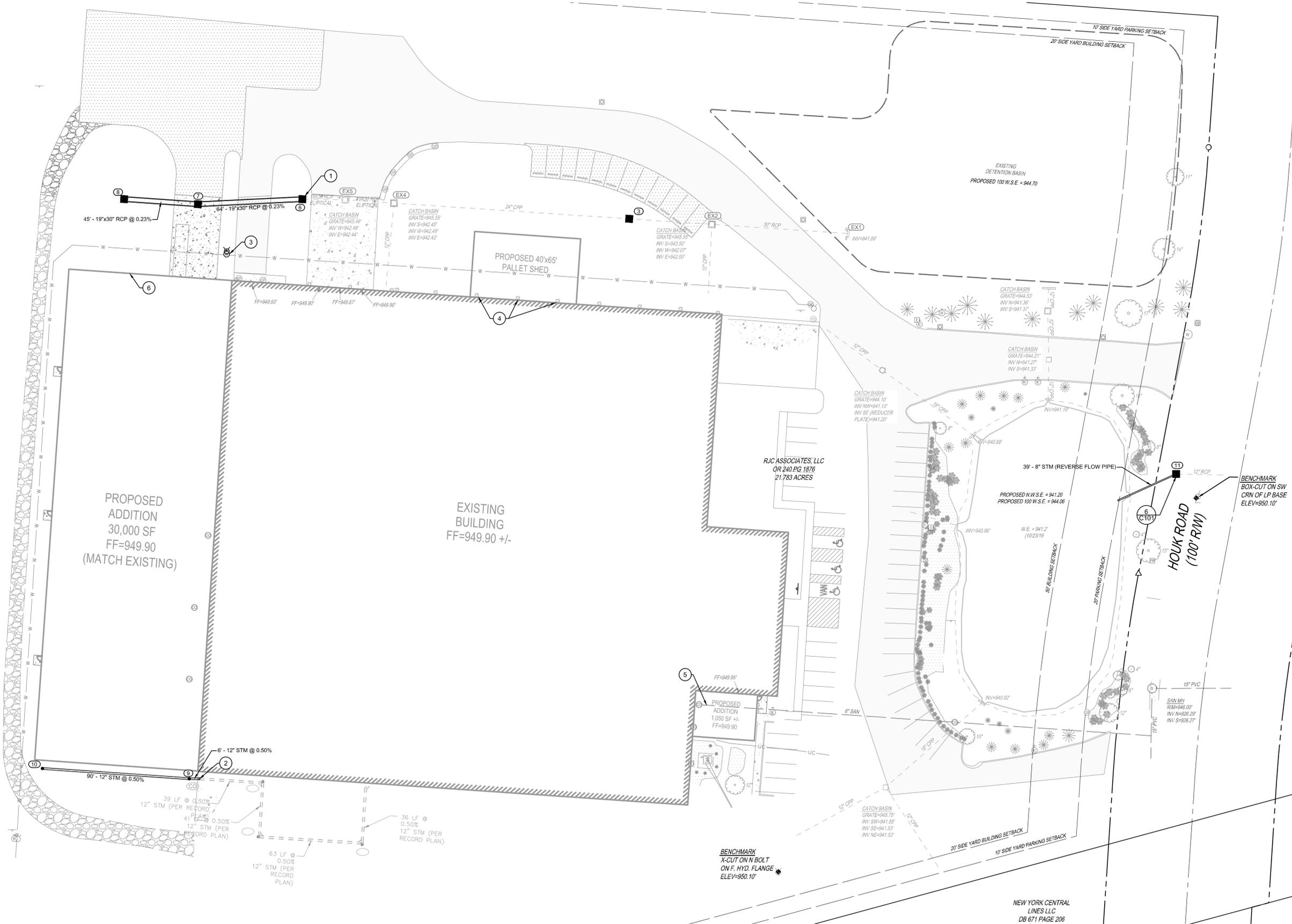


SHEET NAME:

**LOCATION PLAN**

SHEET NO:

**C300**



**NOTES**

1. ALL CATCH BASINS IN THE PAVEMENT AND CURB ARE TO HAVE FINGER DRAINS AS SHOWN IN DETAIL 5/C101.
2. DISTANCES SHOWN FOR STORM SEWER PIPES ARE MEASURED FROM CENTER OF STRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR ACTUAL FIELD CUT LENGTH. COORDINATES FOR STORM STRUCTURES ARE SHOWN TO THE CENTER OF STRUCTURE, UNLESS OTHERWISE NOTED.

**UTILITY KEYNOTES**

1. CONTRACTOR TO VERIFY INVERT ELEVATION OF EXISTING 19"x30" STUB PRIOR TO CONSTRUCTION AND REPORT FINDINGS TO ENGINEER.
2. CONTRACTOR TO VERIFY INVERT ELEVATION OF EXISTING 12" PIPE PRIOR TO CONSTRUCTION AND REPORT FINDINGS TO ENGINEER.
3. CONNECT RELOCATED FIRE HYDRANT AND VALVE TO EXISTING WATER LINE.
4. DOWNSPOUTS TO BE RELOCATED/REROUTED AS NECESSARY TO CONVEY ROOF DRAINAGE TO THE STORM SEWER SYSTEM.
5. SANITARY SERVICE LOCATED BELOW PROPOSED ADDITION SHALL BE CONVERTED AS NEEDED TO COMPLY WITH CURRENT PLUMBING CODE. SEE MEP PLANS FOR DETAILS.
6. PROPOSED DOWNSPOUTS TO BE ROUTED AS NECESSARY TO CONVEY ROOF DRAINAGE TO THE STORM SEWER SYSTEM.

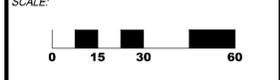
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SEAL:

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**CHARTER NEX 2 BAY ADDITION**  
 1188 SOUTH HOUK ROAD  
 DELAWARE, OHIO

PROJECT NO: 100276.003  
 DATE: 2019-12-04



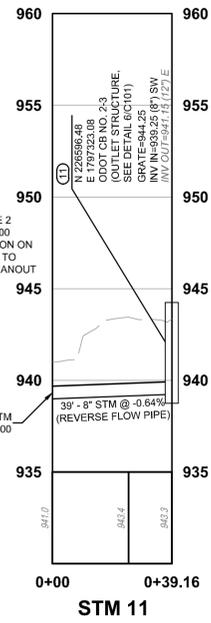
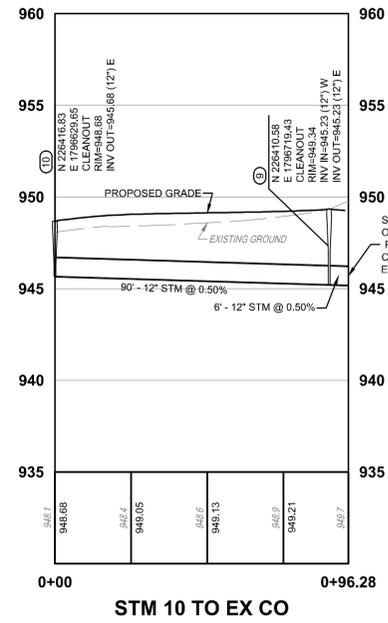
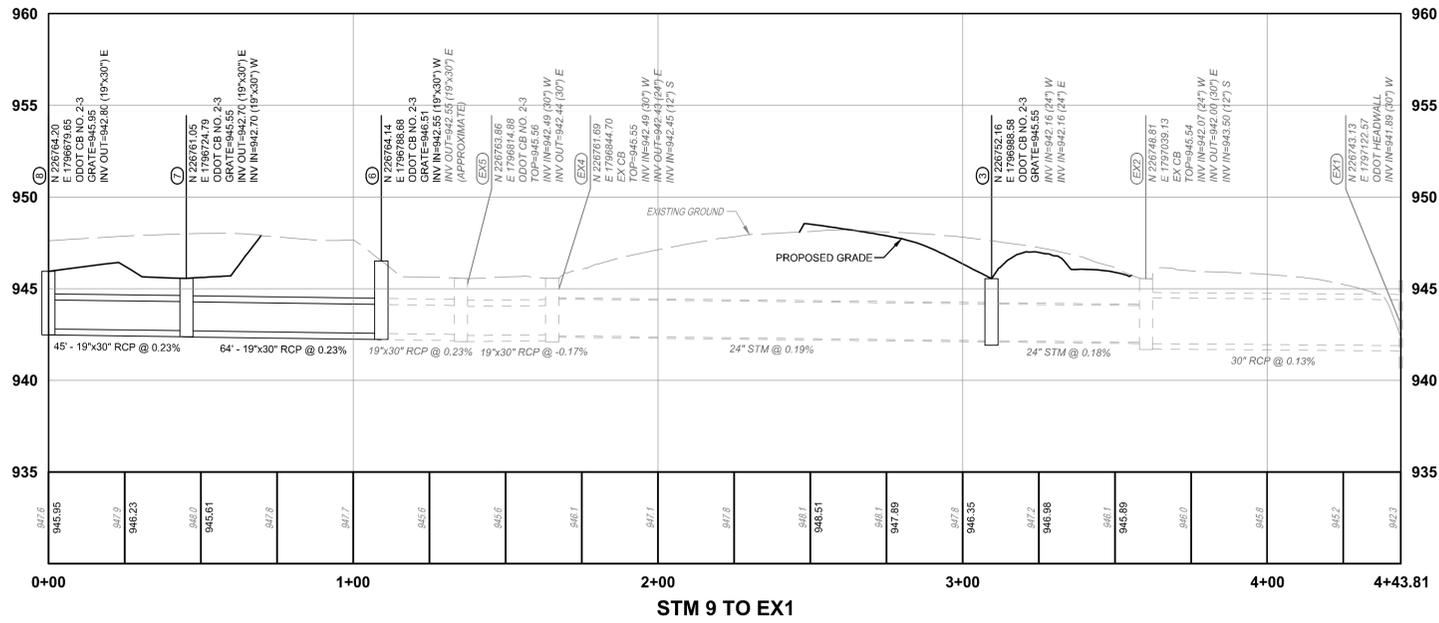
SHEET NAME:

**UTILITY PLAN**

SHEET NO:  
**C400**



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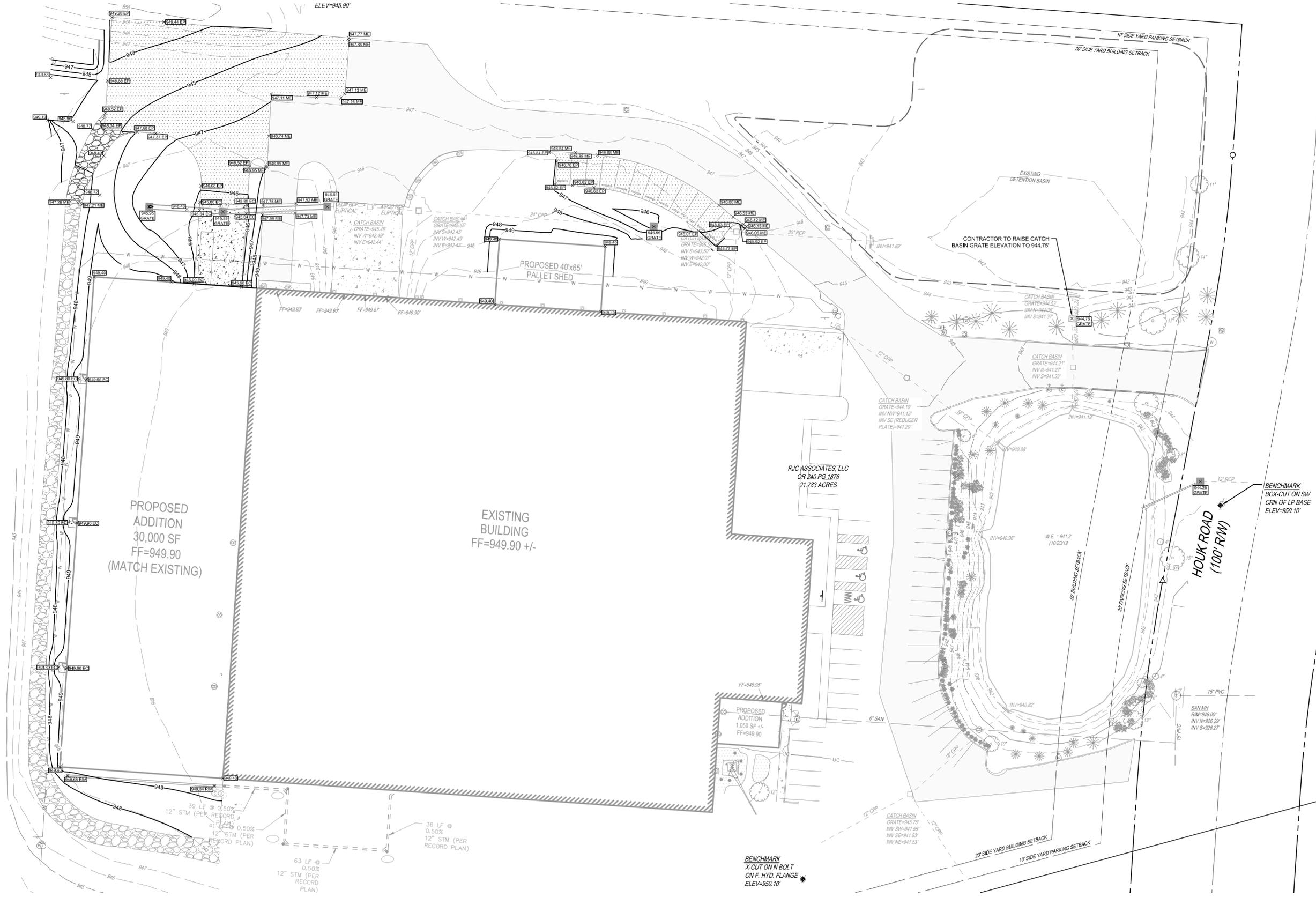
**CHARTER NEX 2 BAY ADDITION**  
 1188 SOUTH HOUK ROAD  
 DELAWARE, OHIO

PROJECT NO: 100276.003  
 DATE: 2019-12-04  
 SCALE:  
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 H 0 15 30 60

SHEET NAME:  
**UTILITY PROFILES**

SHEET NO.  
**C401**

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**NOTES**

1. ALL ELEVATIONS SHOWN ARE FINISHED GRADE ELEVATIONS.
2. THE CONTRACTOR IS RESPONSIBLE FOR IMPORT OR EXPORT OF MATERIAL AS NECESSARY TO MEET DESIGN GRADES.

**GRADING LEGEND**

- 945 — EXISTING MAJOR CONTOUR
- 946 — EXISTING MINOR CONTOUR
- 945 — PROPOSED MAJOR CONTOUR
- 946 — PROPOSED MINOR CONTOUR

**SPOT ELEVATION LEGEND**

- × [ ] PROPOSED FINISHED GRADE ELEVATION
- × [ ] MATCH EXISTING ELEVATION
- × [ ] EDGE OF PAVEMENT ELEVATION
- × [ ] EDGE OF CONCRETE ELEVATION
- × [ ] STRUCTURE GRATE ELEVATION
- × [ ] STRUCTURE RIM ELEVATION

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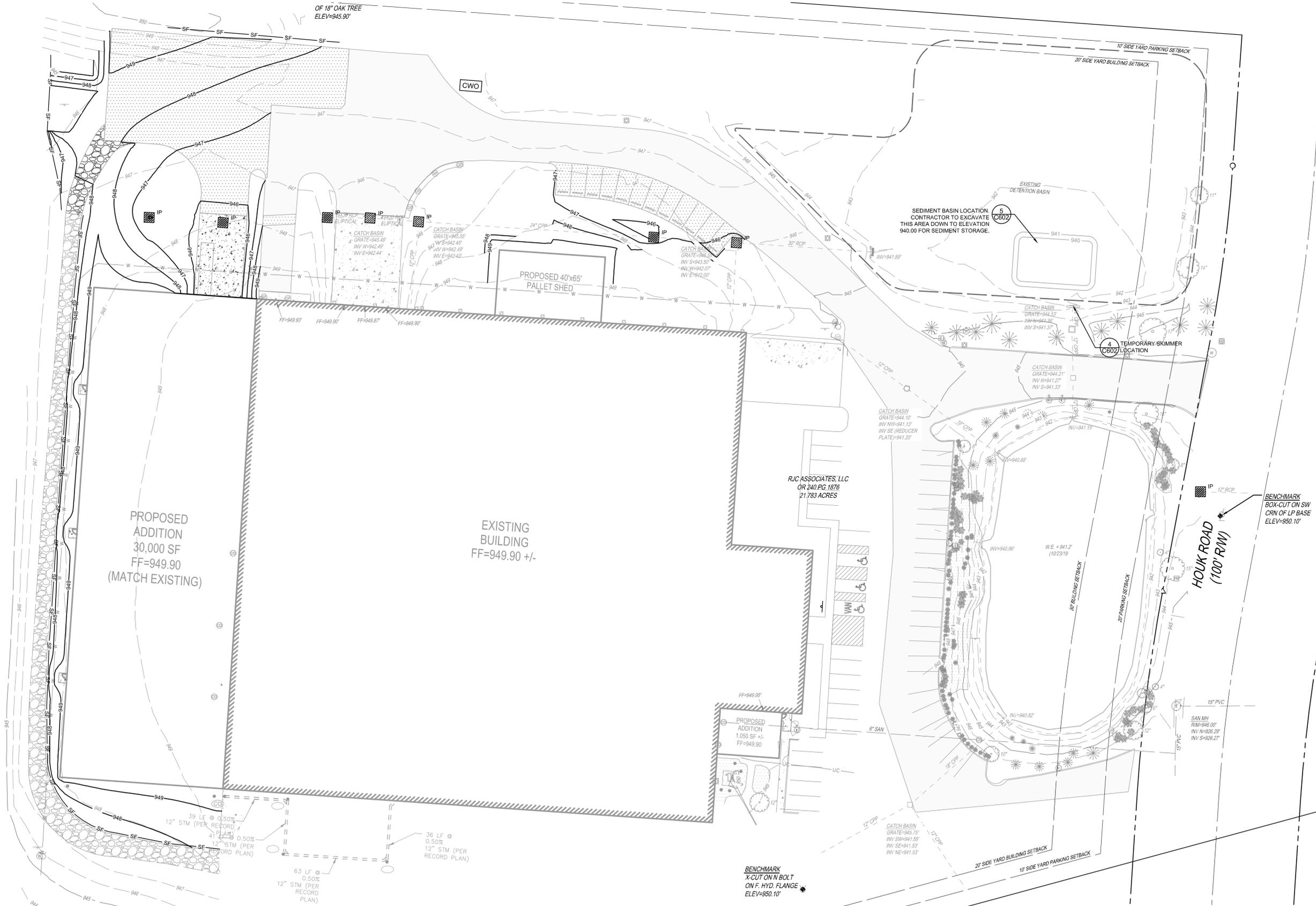
**CHARTER NEX 2 BAY ADDITION**  
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 DELAWARE, OHIO

PROJECT NO: 100276.003  
 DATE: 2019-12-04  
 SCALE:

SHEET NAME:  
**GRADING PLAN**  
 SHEET NO:  
**C500**



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**EROSION CONTROL LEGEND**

	INLET PROTECTION	
	SILT FENCE	
	CONCRETE WASHOUT	

NEW YORK CENTRAL  
LINES LLC  
DB 671 PAGE 206



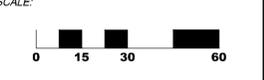
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NO.	DATE	DESCRIPTION

**CHARTER NEX  
2 BAY ADDITION**  
1188 SOUTH HOUK ROAD  
DELAWARE, OHIO

PROJECT NO: 100276.003  
DATE: 2019-12-04



SHEET NAME:  
**EROSION CONTROL PLAN**

SHEET NO:  
**C600**

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**PROJECT DATA**

SITE IMPROVEMENTS FOR CHARTER NEX IN CITY OF DELAWARE, DELAWARE COUNTY, OHIO, INCLUDING A BUILDING EXPANSION, STORM SEWERS AND OTHER RELATED UTILITIES. SOIL DISTURBING ACTIVITIES WILL INCLUDE: CLEARING AND GRUBBING INSTALLATION OF EROSION AND SEDIMENT CONTROLS, GRADING, INSTALLATION OF THE SEWERS AND OTHER UTILITIES AND THE PREPARATION FOR FINAL SEEDING.

LATITUDE: N 40.286953°  
 LONGITUDE: W 83.115192°  
 ESTIMATED CONSTRUCTIONS DATES: 01/30/2020 - 01/30/2021

TOTAL SITE AREA: 21.79 ACRES  
 TOTAL DISTURBED AREA: 1.61 ACRES

EXISTING IMPERVIOUS AREA: 3.95 ACRES  
 PROPOSED IMPERVIOUS AREA: 0.99 ACRES  
 TOTAL IMPERVIOUS AREA AFTER CONSTRUCTION: 4.94 ACRES  
 INCREASE IN IMPERVIOUS AREA: 20%

PRE-CONSTRUCTION RUNOFF COEFFICIENT : C=0.55  
 POST-CONSTRUCTION RUNOFF COEFFICIENT: C=0.58

IMMEDIATE RECEIVING WATER/MSA: UNNAMED TRIBUTARY TO OLENTANGY RIVER AND SCIOTO RIVER

EXISTING LAND USE: MANUFACTURING FACILITY

SOILS: Blg1A1 - BLOUNT SILT LOAM, GROUND MORAIN, PwA - PE WAMO SILTY CLAY LOAM

**CONSTRUCTION SEQUENCE**

TO COMPLETE THE EXCAVATION AND CONSTRUCTION OF THE PROPOSED JOB IMPROVEMENTS, COORDINATION OF THE CONTRACTOR'S WORK CREWS WILL BE REQUIRED. THE PROPOSED DETENTION BASIN WILL PERFORM TEMPORARY SEDIMENT CONTROL AND STORAGE DURING THE PROPOSED CONSTRUCTION. WORK WILL GENERALLY PROCEED FROM DOWNSTREAM TO UPSTREAM IN THESE WORK AREAS. THE GENERAL CONSTRUCTION SEQUENCE IS AS FOLLOWS:

- A) INSTALL TEMPORARY SEDIMENT BASIN AND PERIMETER EROSION CONTROL ITEMS.
- B) STRIP TOPSOIL AND ANY UNSUITABLE MATERIAL THROUGH THE INCREMENTAL WORK AREA.
- C) PERFORM MASS GRADING, DIRECTING ANY SURFACE RUNOFF OF DISTURBED AREAS TO TEMPORARY SEDIMENT BASIN.
- D) INSTALL PROPOSED STORM SEWER AND INLET PROTECTION DEVICES.
- E) CONSTRUCT PROPOSED STRUCTURE AND INSTALL FINAL PAVING.
- F) ANY DISTURBED OR EXPOSED AREAS SHALL BE STABILIZED PER OEPA TEMPORARY AND PERMANENT STABILIZATION REGULATIONS INCLUDING:
  - 1. SEEDING
  - 2. DITCH MATTING
  - 3. INLET PROTECTION
  - 4. MULCHING
  - 5. WATERING

**EMERGENCY ACTION & SPILL PREVENTION PLAN**

THE SCOPE OF WORK COVERED BY THIS PLAN INCLUDES EMERGENCY RESPONSE TO SPILLS, CONTAINMENT OF SPILLED LIQUIDS, EMERGENCY NOTIFICATION NUMBERS, AND SOIL EXCAVATION FOR SPILL CLEAN-UP.

IN THE EVENT OF A SPILL EVENT THE EMPLOYEE SHALL ASSESS THE SPILL AND IMMEDIATELY NOTIFY THE SAFETY OFFICER AND SUPERVISOR IN CHARGE, OR OTHER INDIVIDUALS AS LISTED BELOW.

TITLE	NAME	PHONE NUMBER
-------	------	--------------

SITE SUPERINTENDENT \_\_\_\_\_

PROJECT ENGINEER \_\_\_\_\_

IMMEDIATELY AFTER NOTIFICATION, THE EMPLOYEE WILL BE DIRECTED BY THE SAFETY OFFICER, OR RESPONSIBLE PARTY TO START CONTAINMENT PROCEDURES TO PREVENT THE MATERIAL FROM REACHING THE STORM SEWERS, DRAINAGE DITCH, AND OTHER OUTLETS USING THE FOLLOWING ACTIONS OR ANY OTHER MEANS NECESSARY WITHOUT COMPROMISING WORKER SAFETY:

- 1) CLEAR PERSONNEL FROM THE SPILL AREA AND ROPE OFF AREA.
- 2) STOP THE SPILL.
- 3) USE SORBENT MATERIALS, PLUG PUTTY, OR HOLE PUTTY AS NECESSARY TO CONTROL THE SPILL AT THE SOURCE.
- 4) CONSTRUCT A TEMPORARY CONTAINMENT DIKE OF SORBENT MATERIALS OR DIRT TO CONTAIN SPILL.

SPILL KITS WILL BE LOCATED ON THE PROJECT AS DESIGNATED ON THE SWPPP PLAN.

UPON COMPLETION OF CONTAINMENT OPERATIONS, PROPER CLEAN-UP PROCEDURES WILL BE IMPLEMENTED IN ACCORDANCE WITH REGULATORY PROCEDURES.

ADDITIONAL EMERGENCY CONTACT NUMBERS:	24 HOUR PHONE NO.:
OHIO EPA	614-728-3898

\_\_\_\_\_

\_\_\_\_\_

**GENERAL NOTES**

THE CONTRACTOR IS HEREBY ADVISED THAT STRICTER POLLUTION CONTROL STANDARDS AND ENFORCEMENT HAVE BEEN IMPOSED BY THE OHIO EPA SINCE MARCH 10, 2003 AND WITH A REVISION IN APRIL 2018. ALSO, MANY PRIVATE CITIZEN ENVIRONMENTAL GROUPS, WHO HAVE BEEN KNOWN TO FILE CIVIL LEGAL ACTIONS, ARE PRESENT IN THE AREA AND OBSERVE ALL CONSTRUCTION OPERATIONS.

THE CONTRACTOR SHALL INFORM ALL SUBCONTRACTORS OF THE REQUIREMENTS AND RESPONSIBILITIES OF THE SWPPP AND SHALL DOCUMENT ALL SUCH NOTIFICATIONS AND/OR DISCUSSIONS.

THE CONTRACTOR WILL BE REQUIRED TO PARTICIPATE IN SEDIMENT AND EROSION CONTROL INSPECTIONS ON A WEEKLY BASIS AND SIGN AN APPROVED INSPECTION SHEET THAT SHALL BE KEPT ON FILE AT THE JOB SITE.

UNLESS OTHERWISE NOTED, STANDARDS AND SPECIFICATIONS ESTABLISHED IN THE LATEST EDITION OF THE OEPA "RAINWATER AND LAND DEVELOPMENT" HANDBOOK SHALL GOVERN THE EROSION AND SEDIMENT CONTROL INSTALLATIONS SPECIFIED ON THIS PLAN.

THIS PROJECT WILL INVOLVE SEVERAL CONSTRUCTION PHASES AND SEQUENCING THROUGHOUT ITS LIFETIME. IT IS VERY IMPORTANT THAT ALL TEMPORARY SEDIMENT AND EROSION CONTROL (&EC) FIELD METHODS ALONG WITH THIS PLAN, ARE UPDATED TO REFLECT THE ACTUAL FIELD CONDITIONS, CURRENT WEATHER CONDITIONS AND SITE GRADE CHANGES. THE ENGINEER OR THE OHIO EPA CAN AND WILL MODIFY THIS PLAN AS NECESSARY.

THE CONTRACTOR WILL VOLUNTARILY SELF REPORT ANY POTENTIAL VIOLATIONS OF THE OEPA NPDES PERMIT TO THE ENGINEER AND THE OEPA.

THE CONTRACTOR SHALL REMOVE EXISTING GROUND COVER ONLY AS NECESSARY FOR THE PROJECT PHASE CURRENTLY UNDER CONSTRUCTION.

CONSTRUCTION AND DEMOLITION DEBRIS SHALL BE PROPERLY DISPOSED OF ACCORDING TO OHIO EPA REQUIREMENTS.

THE CONTRACTOR WILL BE REQUIRED TO BUILD SEDIMENT BASINS OR SEDIMENT TRAPS OR USE EQUAL METHODS TO DETAIN AND CLEAN WATER TO ACCEPTABLE EPA STANDARDS BEFORE RELEASING THE WATER BACK INTO THE STREAM.

THERE SHALL BE NO TURBID DISCHARGES TO SURFACE WATERS, RESULTING FROM DEWATERING ACTIVITIES. SEDIMENT-LADEN WATER MUST PASS THROUGH A SETTLING POND, FILTER BAG, OR OTHER COMPARABLE PRACTICE, PRIOR TO DISCHARGE.

NO SOLID OR LIQUID WASTE SHALL BE DISCHARGED INTO STORM WATER RUNOFF.

ALL PROCESS WASTEWATER (EQUIPMENT WASHING, LEACHATE FROM ON-SITE WASTE DISPOSAL, ETC.) SHALL BE COLLECTED AND DISPOSED OF AT A PUBLICLY OWNED TREATMENT WORKS.

ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH ALL LOCAL EROSION/SEDIMENT CONTROL, WASTE DISPOSAL, SANITARY AND HEALTH REGULATIONS.

OTHER EROSION CONTROL ITEMS MAY BE NECESSARY DUE TO ENVIRONMENTAL CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND IMPLEMENTATION OF ADDITIONAL EROSION CONTROL ITEMS, AT THE ENGINEER'S DISCRETION.

NO SOIL, ROCK, DEBRIS OR OTHER MATERIAL SHALL BE DUMPED OR PLACED IN ANY AREAS NOT ADEQUATELY PROTECTED BY EROSION CONTROL INSTALLATIONS.

IT IS PREFERRED TO USE PERMANENT EROSION CONTROL ITEMS AS SHOWN IN THE PLANS TO CONTROL CONSTRUCTION POLLUTION WHEN POSSIBLE. OTHERWISE, THE TEMPORARY POLLUTION PREVENTION ITEMS ARE TO BE USED.

MOST TEMPORARY S&EC METHODS, INCLUDING BUT NOT LIMITED TO, SILT FENCE AND DITCH CHECKS MAY ALL HAVE TO BE PERIODICALLY REMOVED AND REPLACED, OR MOVED FROM THE EXISTING ROAD DITCH OR STRIPPED AREAS AS WORK PROGRESSES. ANY CHANGES SHALL BE NOTED IN THE PLAN BY RED LINE AND DATED ON A CORRECTIVE ACTION LOG.

ALL TEMPORARY SEDIMENT CONTROLS AND STORM WATER QUALITY METHODS WILL BE BUILT/INSTALLED AS THE PROJECT PROGRESSES TO ELIMINATE UNNECESSARY DISTURBANCE AND REDUNDANCY. ALL TEMPORARY CONTROLS SHALL BE IN PLACE AND FUNCTIONING PROPERLY WHEN THREATENING WEATHER IS IMMINENT.

"TEMPORARY STABILIZATION" MEANS THE ESTABLISHMENT OF TEMPORARY VEGETATION, MULCHING, GEOTEXTILES, SOD, PRESERVATION OF EXISTING VEGETATION AND OTHER TECHNIQUES CAPABLE OF QUICKLY ESTABLISHING COVER OVER DISTURBED AREAS TO PROVIDE EROSION CONTROL BETWEEN CONSTRUCTION OPERATIONS.

"PERMANENT STABILIZATION" MEANS THE ESTABLISHMENT OF PERMANENT VEGETATION, DECORATIVE LANDSCAPE MULCHING, MATTING, SOD, RIP RAP AND LANDSCAPING TECHNIQUES TO PROVIDE PERMANENT EROSION CONTROL ON AREAS WHERE CONSTRUCTION OPERATIONS ARE COMPLETE OR WHERE NO FURTHER DISTURBANCE IS EXPECTED FOR AT LEAST A YEAR.

OFF-SITE TRACKING OF SEDIMENTS SHALL BE MINIMIZED. A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. ALL PAVED STREETS ADJACENT TO THE SITE WILL BE SWEEPED DAILY TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARP.

**STABILIZATION PRACTICES**

PERMANENT SEEDING AND MULCHING STABILIZATION SHALL BE PROVIDED PER OEPA GUIDELINES AS SET FORTH IN PART II.B OF OHIO EPA PERMIT NO.: OHC000005. (SEE TABLE 1)

TABLE 1: PERMANENT STABILIZATION	
AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY AREAS THAT WILL LIE DORMANT FOR ONE YEAR OR MORE	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE
ANY AREAS WITHIN 50 FEET OF A SURFACE WATER OF THE STATE AND AT FINAL GRADE	WITHIN TWO DAYS OF REACHING FINAL GRADE
ANY OTHER AREAS AT FINAL GRADE	WITHIN SEVEN DAYS OF REACHING FINAL GRADE WITHIN THAT AREA

TEMPORARY SEEDING AND MULCHING STABILIZATION SHALL BE PROVIDED PER OEPA GUIDELINES AS SET FORTH IN PART II.B OF OHIO EPA PERMIT NO.: OHC000005. (SEE TABLE 2)

TABLE 2: TEMPORARY STABILIZATION	
AREA REQUIRING TEMPORARY STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY DISTURBED AREAS WITH 50 FEET OF A SURFACE WATER OF THE STATE AND NOT AT FINAL GRADE	WITHIN TWO DAYS OF THE MOST RECENT DISTURBANCE IF THE AREA WILL REMAIN IDLE FOR MORE THAN 14 DAYS
FOR ALL CONSTRUCTION ACTIVITIES, ANY DISTURBED AREAS THAT WILL BE DORMANT FOR MORE THAN 14 DAYS BUT LESS THAN ONE YEAR, AND NOT WITHIN 50 FEET OF A SURFACE WATER OF THE STATE	FOR RESIDENTIAL SUBDIVISIONS, DISTURBED AREAS MUST BE STABILIZED AT LEAST SEVEN DAYS PRIOR TO TRANSFER OF PERMIT COVERAGE FOR THE INDIVIDUAL LOT(S).
DISTURBED AREAS THAT WILL BE IDLE OVER WINTER	PRIOR TO THE ONSET OF WINTER WEATHER

ALL TEMPORARY EROSION AND SEDIMENT CONTROL INSTALLATIONS SHALL BE REMOVED WHEN 70% VEGETATION HAS BEEN REACHED.

**SEEDING & MULCHING**

MULCH AND/OR OTHER APPROPRIATE VEGETATIVE PRACTICES SHALL BE APPLIED TO DISTURBED AREAS WITHIN 7 DAYS OF GRADING IF THE AREA IS TO REMAIN DORMANT (UNDISTURBED) FOR MORE THAN 14 DAYS OR ON AREAS AND PORTIONS OF THE SITE WHICH CAN BE BROUGHT TO FINAL GRADE.

MULCH SHALL CONSIST OF UNROTTED SMALL GRAIN STRAW APPLIED AT THE RATE OF 2 TONS/AC. OR 90 LB./1000 SQ. FT. (TWO TO THREE BALES). THE STRAW MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1000-SQ.-FT. SECTIONS AND PLACE TWO 45-LB. BALES OF STRAW IN EACH SECTION.

MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR RUNOFF. THE FOLLOWING ARE ACCEPTABLE METHODS FOR ANCHORING MULCH:

- 1) MECHANICAL-USE A DISK, CRIMPER, OR SIMILAR TYPE TOOL SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT BE LEFT GENERALLY LONGER THAN 6 IN.
- 2) MULCH NETTINGS-USE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, FOLLOWING ALL PLACEMENT AND ANCHORING SUGGESTIONS. USE IN AREAS OF WATER CONCENTRATION AND STEEP SLOPES TO HOLD MULCH IN PLACE.
- 3) SYNTHETIC BINDERS-FOR STRAW MULCH, SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI-TAC), DCA-70, PETROSET,

TERRA TACK OR EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER. ALL APPLICATIONS OF SYNTHETIC BINDERS MUST BE CONDUCTED IN SUCH A MANNER WHERE THERE IS NO CONTACT WITH WATERS OF THE STATE.

- 4) WOOD CELLULOSE FIBER - WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. THE FIBER BINDER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 LB./ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LB./100 GAL. OF WOOD CELLULOSE FIBER.

TEMPORARY SEEDING & MULCHING FOR EROSION CONTROL		
SEED TYPE	PER 1,000 SQ FT	PER ACRE
PERENNIAL RYEGRASS	1 POUND	40 POUNDS
TALL FESCUE	1 POUND	40 POUNDS
ANNUAL RYEGRASS	1 POUND	40 POUNDS
SMALL GRAIN STRAW	90 POUNDS	2 TONS
FERTILIZER	6 POUNDS OF 10-10-10 OR 12-12-12	250 POUNDS OF 10-10-10 OR 12-12-12

NOTE: OTHER APPROVED SPECIES MAY BE SUBSTITUTED

**STOCKPILE**

SILT FENCING SHALL BE INSTALLED AROUND TEMPORARY SPOIL STOCKPILES. THESE STOCKPILES SHALL BE STRAW MULCHED AND/OR TEMPORARILY SEEDED WITHIN 7 WORKING DAYS IF LEFT DORMANT FOR 14 DAYS OR LONGER.

**TIMING OF CONTROLS/MEASURES**

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, CONSTRUCTION ENTRANCE(S) AND SILT FENCE WILL BE CONSTRUCTED PRIOR TO CLEARING OR GRADING OF ANY OTHER PORTIONS OF THE SITE. SEDIMENT CONTROL DEVICES SHALL BE IMPLEMENTED FOR ALL AREAS REMAINING DISTURBED LONGER THAN 14 DAYS AND/OR WITHIN 7 DAYS OF ANY GRUBBING ACTIVITIES. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN 14 DAYS WILL BE STABILIZED WITH A TEMPORARY SEED AND MULCH WITHIN 2 DAYS OF THE LAST DISTURBANCE IF THE AREA IS WITHIN 50 FEET OF A STREAM, AND WITHIN 7 DAYS OF THE LAST DISTURBANCE IF THE AREA IS MORE THAN 50 FEET AWAY FROM A STREAM. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, THAT AREA WILL BE STABILIZED WITH PERMANENT SEED AND MULCH. AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT WILL BE REMOVED FROM THE BASIN.

STABILIZATION TYPE	J	F	M	A	M	J	J	A	S	O	N	D	
PERMANENT SEEDING				•	•	•	•	*	*	*	•	•	* IRRIGATION NEEDED
DORMANT SEEDING	•	•	•								•	•	** IRRIGATION NEEDED FOR 2-3 WEEKS AFTER SOD IS APPLIED
TEMPORARY SEEDING			•	•	•	*	*	*	•	•			
SODDING			**	**	**	**	**	**	**	**			
MULCHING	•	•	•	•	•	•	•	•	•	•	•	•	

**INSPECTIONS**

ALL BMPS ON THIS SITE SHALL BE INSPECTED BY "QUALIFIED INSPECTION PERSONNEL" ASSIGNED BY THE CONTRACTOR OR DESIGNATED REPRESENTATIVE AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND BY THE END OF THE NEXT CALENDAR DAY, EXCLUDING WEEKENDS AND HOLIDAYS UNLESS WORK IS SCHEDULED, AFTER A RAIN EVENT OF 0.5 INCHES PER 24 HOUR PERIOD. A RECORD OF THESE INSPECTIONS SHALL BE MAINTAINED IN THE CONSTRUCTION OFFICE WITH THE SWPPP FOR PUBLIC VIEWING. ANY VIOLATIONS WILL BE REPORTED THROUGH THE PROJECT PERSONNEL. A RAIN GAUGE WILL BE LOCATED WITHIN THE PROJECT LIMITS.

FOLLOWING EACH INSPECTION, A CHECKLIST MUST BE COMPLETED AND SIGNED BY THE QUALIFIED INSPECTION PERSONNEL REPRESENTATIVE. AT A MINIMUM, THE INSPECTION REPORT SHALL INCLUDE:

- 1. THE INSPECTION DATE;
- 2. NAMES, TITLES, AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION;
- 3. WEATHER INFORMATION FOR THE PERIOD SINCE THE LAST INSPECTION (OR SINCE COMMENCEMENT OF CONSTRUCTION ACTIVITY IF THE FIRST INSPECTION) INCLUDING A BEST ESTIMATE OF THE BEGINNING OF EACH STORM EVENT, DURATION OF EACH STORM EVENT, APPROXIMATE AMOUNT OF RAINFALL FOR EACH STORM EVENT (IN INCHES), AND WHETHER ANY DISCHARGES OCCURRED;
- 4. WEATHER INFORMATION AND A DESCRIPTION OF ANY DISCHARGES OCCURRING AT THE TIME OF THE INSPECTION;
- 5. LOCATION(S) OF DISCHARGES OF SEDIMENT OR OTHER POLLUTANTS FROM THE SITE;
- 6. LOCATION(S) OF BMPS THAT NEED TO BE MAINTAINED;
- 7. LOCATION(S) OF BMPS THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION;
- 8. LOCATION(S) WHERE ADDITIONAL BMPS ARE NEEDED THAT DID NOT EXIST AT THE TIME OF INSPECTION; AND
- 9. CORRECTIVE ACTION REQUIRED INCLUDING ANY CHANGES TO THE SWP3 NECESSARY AND IMPLEMENTATION DATES.

**MAINTENANCE**

THE CONTRACTOR SHALL MAINTAIN, REPAIR, OR REPLACE ALL EROSION CONTROL INSTALLATIONS AS NEEDED TO ENSURE THE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. ALL REPAIRS TO BMPS SHALL BE MADE WITHIN 3 DAYS (OR SOONER IF POSSIBLE) OF NOTIFICATION OF DEFICIENCIES. IF THE CORRECTIONS ARE NOT MADE WITHIN THE 3 DAY PERIOD, LIQUIDATED DAMAGES MAY BE ASSESSED AS PER THE ODOT CMS SECTION 109.27.

ONGOING INSPECTION OF INSTALLATIONS WILL BE PERFORMED BY THE CONTRACTOR OR DESIGNATED REPRESENTATIVE.

ANY TRAPPED SEDIMENT OR DEBRIS REMOVED DURING CLEANING OF OR REMOVAL OF BMP INSTALLATIONS SHALL BE PLACED IN AREAS NOT SUBJECT TO EROSION AND PERMANENTLY STABILIZED.

**DUST CONTROL**

DUST CONTROL INVOLVES PREVENTING OR REDUCING DUST FROM EXPOSED SOILS OR OTHER SOURCES DURING LAND DISTURBING, DEMOLITION AND CONSTRUCTION ACTIVITIES TO REDUCE THE PRESENCE OF AIRBORNE SUBSTANCES WHICH MAY PRESENT HEALTH HAZARDS, TRAFFIC SAFETY PROBLEMS OR HARM ANIMAL OR PLANT LIFE.

THE FOLLOWING SPECIFICATIONS FOR DUST CONTROL SHALL BE FOLLOWED ONSITE:

- 1. VEGETATIVE COVER AND/MULCH - APPLY TEMPORARY OR PERMANENT SEEDING AND MULCH TO AREAS THAT WILL REMAIN IDLE FOR OVER 14 DAYS. SAVING EXISTING TREES AND LARGE SHRUBS WILL ALSO REDUCE SOIL AND AIR MOVEMENT ACROSS DISTURBED AREAS. SEE TEMPORARY SEEDING; PERMANENT SEEDING; MULCHING PRACTICES; AND TREE AND NATURAL AREA PROTECTION PRACTICES.
- 2. WATERING - SPRAY SITE WITH WATER UNTIL THE SURFACE IS WET BEFORE AND DURING GRADING AND REPEAT AS NEEDED, ESPECIALLY ON HAUL ROADS AND OTHER HEAVY TRAFFIC ROUTES. WATERING SHALL BE DONE AT A RATE THAT PREVENTS DUST BUT DOES NOT CAUSE SOIL EROSION. WETTING AGENTS SHALL BE UTILIZED ACCORDING TO MANUFACTURERS' INSTRUCTIONS.
- 3. SPRAY-ON ADHESIVES - APPLY ADHESIVE ACCORDING TO THE FOLLOWING TABLE OR MANUFACTURERS' INSTRUCTIONS.

ADHESIVE	WATER DILUTION (ADHESIVE: WATER)	NOZZLE TYPE	APPLICATION RATE (GAL/AC)
LATEX EMULSION	12.5:1	FINE	235
RESIN IN WATER ACRYLIC EMULSION (NO TRAFFIC)	4:1	FINE	300
ACRYLIC EMULSION (NO TRAFFIC)	7:1	COARSE	450
ACRYLIC EMULSION (TRAFFIC)	3.5:1	COARSE	350



SEAL:



NO. DATE DESCRIPTION

**CHARTER NEX  
2 BAY ADDITION**  
1188 SOUTH HOUK ROAD  
DELAWARE, OHIO

PROJECT NO: 100276.003

DATE: 2019-12-04

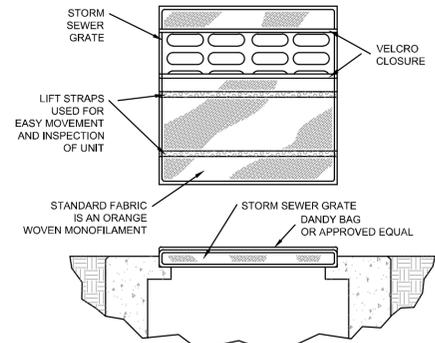
SCALE:

SHEET NAME:

**EROSION CONTROL NOTES**

SHEET NO.

**C601**

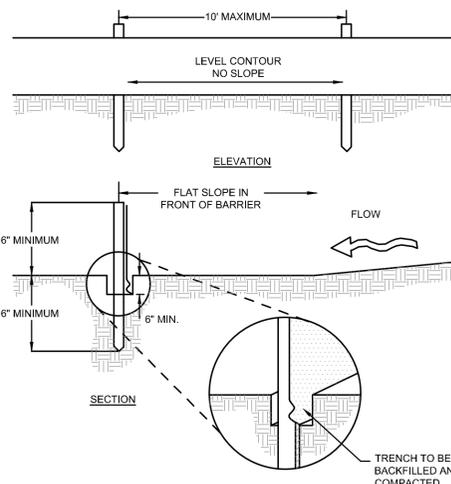


SPECIFICATIONS			
MECHANICAL PROPERTIES	TEST METHOD	UNITS	MARV
GRAB TENSILE STRENGTH	ASTM D 4632	KN (LBS)	1.62 (365) X 0.89 (200)
GRAB TENSILE ELONGATION	ASTM D 4632	%	24 X 10
PUNCTURE STRENGTH	ASTM D 4833	KN (LBS)	0.40 (90)
MULLEN BURST STRENGTH	ASTM D 3786	KPA (PSI)	3097 (450)
TRAPEZOID TEAR STRENGTH	ASTM D 4533	KN (LBS)	0.51 (115) X 0.33 (75)
UV RESISTENCE	ASTM D 4355	%	90
APPARENT OPENING SIZE	ASTM D 4751	MM (US STD SIEVE)	0.425 (40)
FLOW RATE	ASTM D 4491	1/MIN/M(GAL/MIN/FT <sup>2</sup> )	5907 (145)
PERMITTIVITY	ASTM D 4491	SEC <sup>-1</sup>	2.1

**INSTALLATION:** THE EMPTY DANDY BAG SHOULD BE PLACED OVER THE GRATE AS THE GRATE STANDS ON END. IF USING OPTIONAL OIL ABSORBENTS, PLACE ABSORBENT PILLOW IN POUCH ON THE BOTTOM (BELOW-GRADE) SIDE OF THE UNIT. ATTACH ABSORBENT PILLOW TO TETHER LOOP. TUCK THE ENCLOSURE FLAP INSIDE TO COMPLETELY ENCLOSE THE GRATE. HOLDING THE LIFTING DEVICES (DO NOT RELY ON LIFTING DEVICES TO SUPPORT THE ENTIRE WEIGHT OF THE GRATE), PLACE THE GRATE INTO ITS FRAME.

**MAINTENANCE:** REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM SURFACE AND VICINITY OF UNIT AFTER EACH STORM EVENT. REMOVE SEDIMENT THAT HAS ACCUMULATED WITHIN THE CONTAINMENT AREA OF THE DANDY BAG AS NEEDED. IF USING OPTIONAL OIL ABSORBENTS, REMOVE AND REPLACE ABSORBENT PILLOW WHEN NEAR SATURATION.

**1 DANDY BAG DETAIL**  
NTS

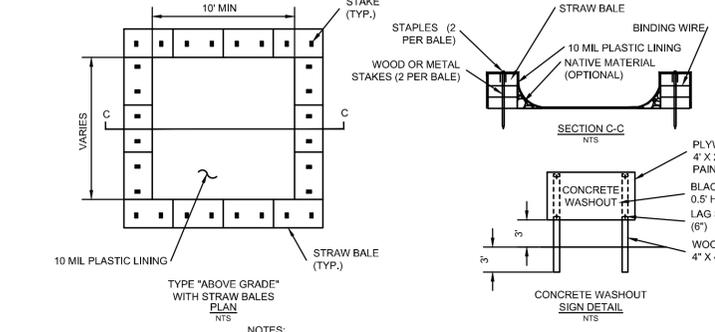
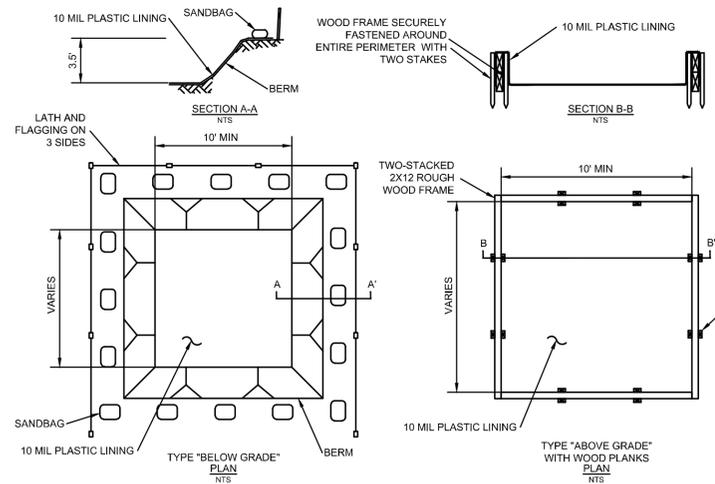


- NOTES:**
- SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
  - ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES OR DEPRESSIONS THAT MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.
  - ENDS OF THE SILT FENCES SHALL BE BROUGHT UPSLOPE SLIGHTLY SO THAT WATER PONDED BY THE SILT FENCE WILL BE PREVENTED FROM FLOWING AROUND THE ENDS.
  - SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.
  - WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5 FEET (OR AS MUCH AS POSSIBLE) UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE REESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE SILT FENCE.
  - THE HEIGHT OF THE SILT FENCE SHALL BE A MINIMUM OF 16 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
  - THE SILT FENCE SHALL BE PLACED IN AN EXCAVATED OR SLICED TRENCH CUT A MINIMUM OF 6 INCHES DEEP. THE TRENCH SHALL BE MADE WITH A TRENCHER, CABLE LAYING MACHINE, SLICING MACHINE, OR OTHER SUITABLE DEVICE THAT WILL ENSURE AN ADEQUATELY UNIFORM TRENCH DEPTH.
  - THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWNSLOPE SIDE OF THE GEOTEXTILE. A MINIMUM OF 8 INCHES OF GEOTEXTILE MUST BE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6-INCH DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED ON BOTH SIDES OF THE FABRIC.
  - SEAMS BETWEEN SECTIONS OF SILT FENCE SHALL BE SPICED TOGETHER ONLY AT A SUPPORT POST WITH A MINIMUM 6-IN. OVERLAP PRIOR TO DRIVING INTO THE GROUND.

- MAINTENANCE—SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. IF RUNOFF OVERTOPS THE SILT FENCE, FLOWS UNDER THE FABRIC OR AROUND THE FENCE ENDS, OR IN ANY OTHER WAY ALLOWS A CONCENTRATED FLOW DISCHARGE, ONE OF THE FOLLOWING SHALL BE PERFORMED, AS APPROPRIATE: 1) THE LAYOUT OF THE SILT FENCE SHALL BE CHANGED, 2) ACCUMULATED SEDIMENT SHALL BE REMOVED, OR 3) OTHER PRACTICES SHALL BE INSTALLED.
- SEDIMENT DEPOSITS SHALL BE ROUTINELY REMOVED WHEN THE DEPOSIT REACHES APPROXIMATELY ONE-HALF OF THE HEIGHT OF THE SILT FENCE.
- SILT FENCES SHALL BE INSPECTED AFTER EACH RAINFALL AND AT LEAST DAILY DURING A PROLONGED RAINFALL. THE LOCATION OF EXISTING SILT FENCE SHALL BE REVIEWED DAILY TO ENSURE ITS PROPER LOCATION AND EFFECTIVENESS. IF DAMAGED, THE SILT FENCE SHALL BE REPAIRED IMMEDIATELY.
- CRITERIA FOR SILT FENCE MATERIALS**
- FENCE POST — THE LENGTH SHALL BE A MINIMUM OF 32 INCHES. WOOD POSTS WILL BE 2-BY-2-IN. NOMINAL DIMENSIONED HARDWOOD OF SOUND QUALITY. THEY SHALL BE FREE OF KNOTS, SPLITS AND OTHER VISIBLE IMPERFECTIONS, THAT WILL WEAKEN THE POSTS. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 10 FT. POSTS SHALL BE DRIVEN A MINIMUM 16 INCHES INTO THE GROUND, WHERE POSSIBLE. IF NOT POSSIBLE, THE POSTS SHALL BE ADEQUATELY SECURED TO PREVENT OVERTURNING OF THE FENCE DUE TO SEDIMENT/WATER LOADINGS.
  - SILT FENCE FABRIC — SEE CHART BELOW.

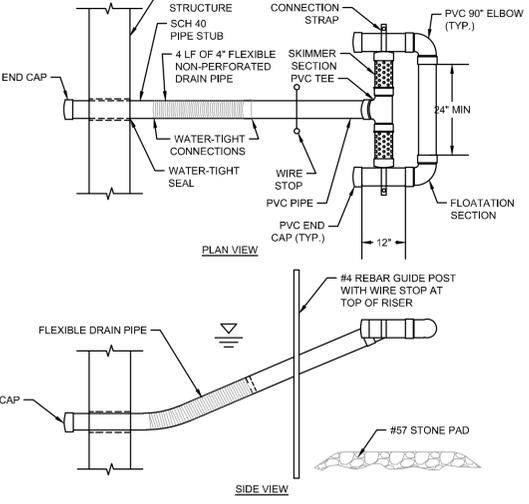
**2 SILT FENCE DETAIL**  
NTS

FABRIC PROPERTIES	VALUES	TEST METHOD
MINIMUM TENSILE STRENGTH	120 LBS. (535 N)	ASTM D 4632
MAXIMUM ELONGATION AT 60 LBS	50%	ASTM D 4632
MINIMUM PUNCTURE STRENGTH	50 LBS. (220 N)	ASTM D 4833
MINIMUM TEAR STRENGTH	40 LBS. (180 N)	ASTM D 4533
APPARENT OPENING SIZE	<0.85 MM	ASTM D 4751
MINIMUM PERMITTIVITY	1X10 <sup>-2</sup> SEC <sup>-1</sup>	ASTM D 4491
UV EXPOSURE STRENGTH RETENTION	70%	ASTM G 4355

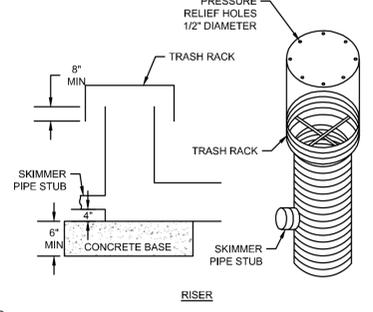
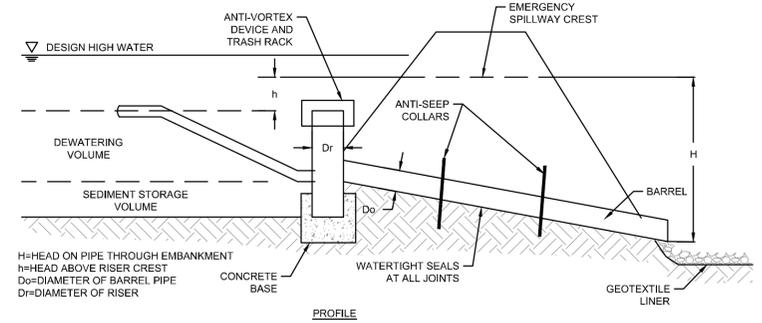


**3 CONCRETE WASHOUT DETAIL**  
NTS

- NOTES:**
- ALL JOINTS OF THE FLOATATION SECTION SHALL BE GLUED TOGETHER AND WATERTIGHT. JOINTS OF THE SKIMMER SECTION NEED NOT BE WATERTIGHT.
  - TO INSTALL DEWATERING PIPE STUB: -FOR CORRUGATED METAL RISER, STUB SHALL BE SCHEDULE 40 STEEL PIPE TACK WELDED TO CREATE A WATERTIGHT SEAL. -FOR CONCRETE RISER, STUB SHALL BE SCHEDULE 40 PVC PIPE GROUTED TO CREATE WATERTIGHT SEAL.
  - FLEXIBLE, NON-PERFORATED HDPE DRAIN PIPE SHALL BE ATTACHED TO OUTLET STRUCTURE DEWATERING STUB WITH WATERTIGHT CONNECTIONS.
  - ORIFICE IS TO BE SIZED FOR A MINIMUM 48-HOUR DEWATERING TIME.



**4 SKIMMER DEWATERING DEVICE DETAIL**  
N.T.S.



- NOTES:**
- SEDIMENT BASINS SHALL BE CONSTRUCTED AND OPERATIONAL BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
  - SITE PREPARATION -THE AREA UNDER THE EMBANKMENT SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED AS NEEDED TO FACILITATE SEDIMENT CLEANOUT. GULLIES AND SHARP BREAKS SHALL BE SLOPED TO NO STEEPER THAN 1:1. THE SURFACE OF THE FOUNDATION AREA WILL BE THOROUGHLY SCARIFIED BEFORE PLACEMENT OF THE EMBANKMENT MATERIAL.
  - CUT-OFF TRENCH -THE CUTOFF TRENCH SHALL BE EXCAVATED ALONG THE CENTERLINE OF THE EMBANKMENT. THE MINIMUM DEPTH SHALL BE 3 FT. UNLESS SPECIFIED DEEPER ON THE PLANS OR AS A RESULT OF SITE CONDITIONS. THE MINIMUM BOTTOM WIDTH SHALL BE 4 FT., BUT WIDE ENOUGH TO PERMIT OPERATION OF COMPACTION EQUIPMENT. THE TRENCH SHALL BE KEPT FREE OF STANDING WATER DURING BACKFILL OPERATIONS.
  - EMBANKMENT -THE FILL MATERIAL SHALL BE FREE OF ALL SOD, ROOTS, FROZEN SOIL, STONES OVER 6 IN. IN DIAMETER, AND OTHER OBJECTIONABLE MATERIAL. THE PLACING AND SPREADING OF THE FILL MATERIAL SHALL BE STARTED AT THE LOWEST POINT OF THE FOUNDATION AND THE FILL SHALL BE BROUGHT UP IN APPROXIMATELY 6 IN. HORIZONTAL LAYERS OR OF SUCH THICKNESS THAT THE REQUIRED COMPACTION CAN BE OBTAINED WITH THE EQUIPMENT USED. CONSTRUCTION EQUIPMENT SHALL BE OPERATED OVER EACH LAYER IN A WAY THAT WILL RESULT IN THE REQUIRED COMPACTION. SPECIAL EQUIPMENT SHALL BE USED WHEN THE REQUIRED COMPACTION CANNOT BE OBTAINED WITHOUT IT. THE MOISTURE CONTENT OF FILL MATERIAL SHALL BE SUCH THAT THE REQUIRED DEGREE OF COMPACTION CAN BE OBTAINED WITH THE EQUIPMENT USED.
  - PIPE SPILLWAY -THE PIPE CONDUIT BARREL SHALL BE PLACED ON A FIRM FOUNDATION TO THE LINES AND GRADES SHOWN ON THE PLANS. CONNECTIONS BETWEEN THE RISER AND BARREL, THE ANTISEEP COLLARS AND BARREL AND ALL PIPE JOINTS SHALL BE WATERTIGHT. SELECTED BACKFILL MATERIAL SHALL BE PLACED AROUND THE CONDUIT IN LAYERS AND EACH LAYER SHALL BE COMPACTED TO AT LEAST THE SAME DENSITY AS THE ADJACENT EMBANKMENT. ALL COMPACTION WITHIN 2 FT. OF THE PIPE SPILLWAY WILL BE ACCOMPLISHED WITH HAND-OPERATED TAMPING EQUIPMENT.
  - RISER PIPE BASE -THE RISER PIPE SHALL BE SET A MINIMUM OF 6 IN. IN THE CONCRETE BASE.
  - TRASH RACKS -THE TOP OF THE RISER SHALL BE FITTED WITH TRASH RACKS FIRMLY FASTENED TO THE RISER PIPE.
  - EMERGENCY SPILLWAY - THE EMERGENCY SPILLWAY SHALL BE CUT IN UNDISTURBED GROUND. ACCURATE CONSTRUCTION OF THE SPILLWAY ELEVATION AND WIDTH IS CRITICAL AND SHALL BE WITHIN A TOLERANCE OF 0.2 FT.

**5 SEDIMENT BASIN DETAIL**  
N.T.S.

**TEMPORARY SEDIMENT BASIN #01 DEWATERING VOLUME**  
1800 CF PER ACRE OF TOTAL DRAINAGE AREA  
1800 CF/AC \* 5.30 AC = 9,540 CF  
PRINCIPAL SPILLWAY ELEVATION = 941.44  
EMERGENCY SPILLWAY ELEVATION = 944.60  
TOP OF BASIN ELEVATION = 944.75  
VOLUME PROVIDED = 61,594 CF

**TEMPORARY SEDIMENT BASIN #01 SEDIMENT VOLUME**  
1000 CF PER ACRE OF TOTAL DISTURBED AREA  
1000 CF/AC \* 1.31 AC = 1,310 CF  
SEDIMENT STORAGE ELEVATION = 941.44  
BOTTOM OF BASIN ELEVATION = 940.00  
VOLUME PROVIDED = 1,740 CF

- OPERATION & MAINTENANCE:**
- SEDIMENT BASINS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. NECESSARY ACTIVITIES ARE SHOWN AS FOLLOWS:
- ESTABLISH VEGETATIVE COVER AND FERTILIZE AS NECESSARY TO MAINTAIN A VIGOROUS COVER IN AND AROUND THE SEDIMENT BASIN.
  - REMOVE UNDESIRABLE VEGETATION PERIODICALLY TO PREVENT GROWTH OF TREES AND SHRUBS ON THE EMBANKMENT AND SPILLWAY AREAS.
  - PROMPTLY REPAIR ERODED AREAS. REESTABLISH VEGETATIVE COVER IMMEDIATELY WHERE SCOUR EROSION HAS REMOVED ESTABLISHED SEEDING.
  - PROMPTLY REMOVE ANY BURROWING RODENTS THAT MAY INVADE AREAS OF THE EMBANKMENT.
  - REMOVE TRASH AND DEBRIS THAT MAY BLOCK SPILLWAYS AND ACCUMULATE IN THE POND.
  - REMOVE SEDIMENT FROM BASIN WHEN IT FILLS THE DESIGN DEPTH OF THE SEDIMENT STORAGE ZONE. THIS ELEVATION SHALL BE MARKED ON A CLEANOUT STAKE NEAR THE CENTER OF THE BASIN.
  - CHECK SPILLWAY OUTLETS AND POINTS OF INFLOW TO ENSURE DRAINAGE IS NOT CAUSING EROSION AND THAT OUTLETS ARE NOT CLOGGED. REPLACE DISPLACED RIPRAP IMMEDIATELY.
  - AFTER THE ENTIRE CONSTRUCTION PROJECT IS COMPLETED, TEMPORARY SEDIMENT BASINS SHOULD BE DEWATERED AND REGRADED TO CONFORM TO THE CONTOURS OF THE AREA. ALL TEMPORARY STRUCTURES SHOULD BE REMOVED AND THE AREA SEDED, MULCHED AND STABILIZED AS NECESSARY.

**THE KLEINGERS GROUP**  
CIVIL ENGINEERING SURVEYING LANDSCAPE ARCHITECTURE  
www.kleingers.com  
350 Worthington Rd  
Suite B  
Westerville, OH 43082  
614.882.4311

NO.	DATE	DESCRIPTION

**CHARTER NEX 2 BAY ADDITION**  
1188 SOUTH HOUK ROAD  
DELAWARE, OHIO

PROJECT NO: 100276.003  
DATE: 2019-12-04  
SCALE:

**EROSION CONTROL DETAILS**

SHEET NO.  
**C602**



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